■ **BIBLICAL HISTORY**

Noah's Ark actually crossed the Atlantic, researcher thinks

Nothing is as exciting as the exploration of Man's past. And nothing is more fascinating than filling in the blank spots in our history.

One can almost say that the whole thing started with Heinrich Schliemann, the amateur archeologist who, as a young boy, devoured Homer's *Iliad* and who refused to come to terms with the contention that the battle for Troy sprang from a poet's imagination.

Schliemann searched for and discovered Troy.

The Hamburg journalist Gerd von Hassler seized upon a much more important event in world history, namely the Great Flood with which God, according to the Bible, punished Man for his sins and destroyed all life on earch — with one exception: Noah and the inhabitants of his Ark.

Hassler is convinced that this Flood is not a figment of the imagination. After all, some 80,000 publications in 72 languages deal with this subject.

The journalist's studies are based on the writings of antiquity, above all the *Gilgamesch Epic* (he was a Sumarian king in the period between 2750 and 2600 BC).

Schliemann's son Paul, the researcher Otto Muck (*Alles über Atlantis* — Everything About Atlantis — published by Econ Verlag) and the American Charles Berlitz (The Bermuda Triangle) are convinced that the Flood took place 10,000 years ago when the earth's axis shifted by almost 25 degrees. The basic elements fire and water merged into a deadly chaos, destroying all life in wide areas.

Many scientists today suspect that a huge planetoid hit our earth at that time.

Says Hassler: "This Flood has remained in the memory of Mankind because Noah — or whatever his name might have been — survived."

How was it possible for a man to escape this world-wide catastrophe? Hassler is firmly convinced that Noah had a ship.

He bases his contention on the Bible's description of the Ark, which goes as follows: "A box with a window on top and a door in the side."

If we translate window with hatch and imagine that all hatches were tightly closed (say with tar) except for a very small manhole, the whole thing becomes feasible.

According to Herr von Hassler, "The door in the side corresponds to the gunports in naval vessels and to loading hatches in merchant ships. Only deep-sea vessels with several decks are equipped with such hatches. And exactly this is what God ordered Noah to build: a triple-decker of close to 4,000 tons GRT."

Even several thousand years later, the sea-going Phoenicians could only dream of such a vessel.

"This means," writes Hassler, "that the survivors of the Flood handed down to their descendents a technical and nautical knowledge which future generations no longer had, but which was preserved as a myth through the ages." He arrives at the conclusion that Noah would have had no trouble crossing the Atlantic in his vessel.

A similarly fascinating speculation was put forward by the controversial Erich von Däniken in his theory whereby Moses' scrolls were housed in a radar installation.

Old Indian legends in both South and North America repeatedly speak of the white, bearded gods who had come from across the sea.

According to Däniken they came from the stars while Hassler believes that they simply came from "overseas." He seeks confirmation for his views in linguistic and cultural similarities.

Thus, for instance, the Germanic god Wotan — always accompanied by a snake — suddenly appears among the Maya Indians in southern Mexico as Uotan. And how, von Hassler asks, can one explain the similarities between the buildings of the Sumarians, the Egyptians and the Mayas?

Hassler's thesis about Noah's crossing of the Atlantic also explains certain similarities between the language of the Mayas and the Greek of antiquity. "There must be limits to coincidence," says von Hassler.

Nigel Davis is much more cautious in his book "Before Columbus Came".

Replying to the contention that South America was populated by people from the South Pacific, he writes: "The presence of a handful of Polynesian words which vaguely correspond to one of the 2,000-year old languages of South America is not much to go by." And much of Hassler's evidence is based on such coincidental facts.

From the *Gilgamesch Epic* Hassler deduces where the Ark made its landing. According to the Epic, the survivors lived "far away at the mouth of rivers." But where were those rivers?

Von Hassler explores all possibilities and the only convincing answer for him, which tallies with the duration of the voyage and many other factors, is the Amazon River. He believes that this theory is borne out by the fact that when crossing the Atlantic, Thor Heyerdahl's *Ra II* was driven towards the Amazon by the Northeast Trades.

Hassler's interpretation is quite interesting. After the destruction of the volcanic island continent Atlantis and the resulting disastrous Flood, the Atlantic was for a long time covered by a huge layer of brimstone. According to Muck, this light mass with a thickness of some 60 metres floated on the North Atlantic.

As a result, the ferryman mentioned in the *Gilgamesch Epic* could very well have been in a position to guide a flat-bottomed ship across the brimstone layer which would have prevented any major wave formation in the Atlantic.

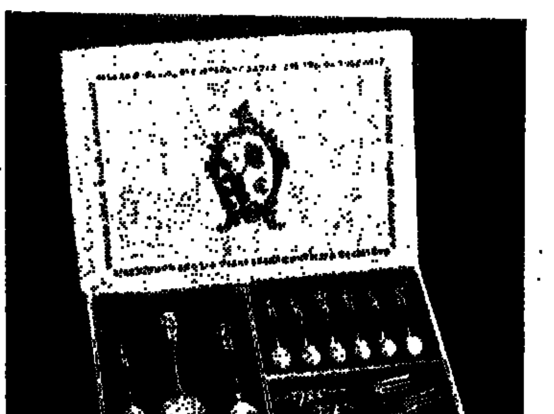
He could thus have taken Gilgamesh to the place where his sea-going forebears — the white gods — had once landed with their big sailing vessels.

It is, according to von Hassler, to these people who landed in South America that we owe the highly developed civilisations of the South American Indians.

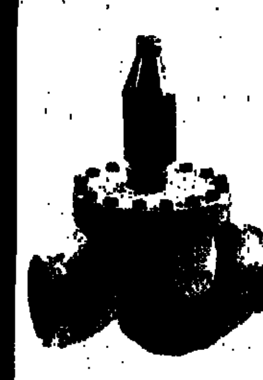
Frauke Selle

(Hamburger Abendblatt, 2 April 1977)

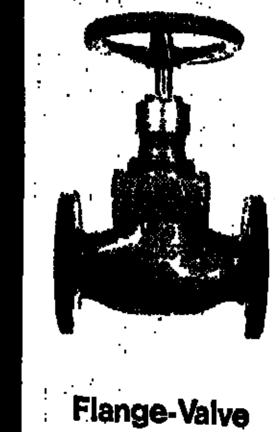
Gerd von Hassler: *Noahs Weg zum Amazonas*, published by Verlagsgesellschaft R. Glöss + Co











The German Tribune

Hamburg, 18 September 1977
Sixteenth Year - No. 805 - By air

A WEEKLY REVIEW OF THE GERMAN PRESS

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New balance needed in face of terrorist threat



It is still too early even to hazard a guess as to the mark that escalating terrorist brutality and a brand of terror that increasingly defies rational political explanation will make on State and society in this country.

Paradoxically enough, the very origins and continued existence of urban terrorism are due in no small measure to the fact that this country boasts one of the most open and democratic systems there could possibly be.

One need hardly explain why an open society is specially vulnerable to acts of violence. The culprit has at his disposal all the facilities we treasure, and rightly so, as freedom from excessive government regimentation.

Free from excessive government intervention in the conduct of his daily affairs, the terrorist is at liberty to seek refuge behind society's scale of values in order to snipe at these very values.

This country can pride itself on enjoying the greatest degree of constitutional freedom a German State has ever boasted. Bonn chose to opt for constitutional liberties because Germans had just undergone an era in which the totalitarian State had reached rock bottom.

Basic rights of the individual are constitutionally guaranteed and the system of government is run on federal lines with a view to forestalling excessive resort to authority even though government may prove less effective as a result.

Yet this country has proved extremely effective, which will have come as a surprise to sceptics, while others may feel it demonstrates how right we were to place our trust in democracy.

It is fair, to assume that in the long run our system of democratic government will not even be shaken by the activities of politically-motivated advocates of violence as long as people in this country retain confidence in and loyalty towards democracy.

It is substantially more difficult to see why our open society can have given rise to terrorism. Maybe by virtue of the very fact that it spurns both violence and authority?

In an open society, groups that are sold on certain ideological notions and fascinated by certain higher objectives to which, they feel, State and society must be subordinated, will tend to feel that the prevailing system is decadent, boring and deserving of a swift and violent demise.

In an open society discussion must be held and support canvassed. It is extremely difficult to set change in motion, especially sweeping changes of a specific nature.

The more radical the objectives, the more difficult it is to gain support, with the result that before long a number of firebrands will try to cut the Gordian knot by resorting to violence.

Having failed to mobilise mass support, they are branded as outsiders, and since they seem likely to remain so they decide to make a virtue out of necessity and heighten their outsider status by resorting to terrorism.

In other words, the open society will tend to spawn desperadoes by virtue of the very fact that it affords protection from an extremist takeover and subordination to radical objectives.

What is more, the more starkly the general feeling of prosperity and well-being stands in contrast to the emotional tenor of the extremists, the more likely an open society is to spawn desperadoes.

This, then, is the state of affairs that has led to the situation with which we are now confronted. We must redouble our efforts, including those of the government and its agencies, while at the same time taking care to ensure that the open society does not pass a point of no return at which the State forfeits its legitimation.

Terrorism must be dealt with, but not by sacrificing the values that make an open society what it is. We must not allow terrorist provocation to make the accusations the urban guerrillas level at society self-fulfilling prophecies.

A new balance must be established in the face of threat, a balance recently defined as follows by *Neue Zürcher Zeitung:*

"There may be more deaths but the State need not collapse as a result. Confidence in a system of government that enjoys majority support in the country at large entails a twofold determination.

"While there must be no question of premature restrictions on basic rights people must also be prepared to accept genuinely necessary measures to maintain public security without immediately prophesying that the writing is on the wall for liberal democracy in the Federal Republic of Germany."

In the context of continual endeavours to strike a balance the way this country is viewed by its European neighbours may well be important.

Chancellor Helmut Schmidt, Foreign Minister Hans-Dietrich Genscher and state secretary Andreas von Schöler of the Interior Ministry (from right to left) are seen on the government front bench in the Bundestag on 8 September as the House observed two minutes' silence as a mark of respect to the men who lost their lives in the terrorist abduction of employers' leader Hanns-Martin Schleyer. (Photo: dpa)

Views and reactions voiced by neighbouring European countries can prove helpful; they can also bedevil relations between countries for far too long, giving rise to anxiety and alarm.

Take, for instance, what has proved a far from uncommon French viewpoint on terrorist violence in this country. A number of French commentators are talking in terms of a sick society at long last testifying to its inner contradictions.

This country's democratic government is smugly made out to be virtually on a par with its urban guerrillas. The extreme power of the State is contrasted with extreme radicals or even "advocates of progress" who are at war with the State.

The French really must have felt this country to have been an intolerable burden as long as it appeared to be a smoothly-running, unruffled and powerful democracy. The discovery that society in this country too has its ills must have come as a relief; it certainly comes as a change from bad news about France.

Le Monde has been particularly keen to throw stones at this country. This is hardly surprising since the prestigious Paris newspaper is no longer as independent in editorial opinion as it once was.

It now backs the Union of the Left, France's electoral alliance of Socialists and Communists, and appears to be attacking democratic forces in this country, specifically including Bonn's Lib-Lab coalition of Social and Free Democrats, by way of an alibi.

Attacking Bonn, then, is intended to provide an alibi for pretensions to save democracy in France by advocating cooperation with the Communists.

Even in France this interpretation of affairs has come in for criticism, criticism which, it is only fair to add, has not gone unmentioned in the columns of *Le Monde*.

Le Monde recently printed a letter from Karsten Voigt, a former leader of the SPD Young Socialists and now a Social Democrat who represents a Frankfurt constituency in the Bonn Bundestag.

Voigt objects to French criticism of the Bonn government in terms of Stalin's hateful catchphrase "social fascism." Social fascism was originally Communist jargon for the policies pursued by German Social Democrats before the war.

Karsten Voigt is indignant that the term should still be used to justify, albeit indirectly, murders, kidnappings and bomb raids in this country.

If French left-wingers really are convinced, Voigt argues, that Social Democracy in this country is a precursor of fascism, then the prospects look ominous for European integration, for Franco-Federal Republic ties and for the labour movement in Europe as a whole.

Herr Voigt claims that if such a distorted view of the situation in this country is allowed to predominate there can no longer be any question of left-wing criticism in a spirit of solidarity and internationalism.

Continued distortion would merely testify to the reawakening of *soi-disant* left-wing but in effect nationalist prejudice in France.

True enough, the situation in France seems unlikely to lend this country

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■ HOME AFFAIRS

Struggle for a slice of the world-wide economic cake is getting more competitive

Le Figaro recently noted that Europe is going to have to learn to rely less than it has done in the past on this country as the economic backbone of the European Community.

The German economic miracle is now no more than a fond memory, the Paris newspaper editorialised, and the Federal Republic of Germany is increasingly coming to resemble its neighbours.

The points of similarity, the French leader-writer claimed, include lack of mobility on the part of the labour force, incipient disgruntlement on the part of the trade unions and demoralisation on the part of the employers.

Is this a totally inaccurate assessment? Certainly not inasmuch as it pinpoints a sense of disappointment that this country has so far failed to wrest itself and others from the clutches of a slough of economic despond.

This disappointment is deep-seated. Both at home and abroad people have grown accustomed to regarding this country as a model of steady economic growth, full employment and, in international terms, tolerable rates of inflation.

Here in this country these parameters have been rated the normal economic state of affairs. No one seems willing to accept the idea that it might actually have been exceptional and that the going has been so easy in recent years that people have come to regard too much as feasible.

Panic reactions here and there occur as a result. "Changing the system" is no longer a mere revolutionary catchphrase; larger sections of a wider public start to call for sweeping changes. Above all, government action is called for in increasingly urgent tones.



various parts of the world. The 1973/74 oil crisis in the wake of the Yom Kippur War was no more than symptomatic of this struggle.

This struggle for a fair share of the world's economic potential involves both commodities and energy on the one hand and the proceeds of gainfully employed labour on the other.

For the duration of this struggle the factors that govern the world economy will no longer be measurable solely in terms of economic cycles because, fundamentally, they are political in nature.

In the industrialised countries this political dispute has immediate economic consequences. It is not merely a matter of swift structural changes resulting in capacity not being fully utilised.

It will necessitate a completely new process with every technological leash being strained to maintain output at less expense and by dint of less labour and to do so with a view to making manufactured goods more competitive.

The struggle for a slice of the cake will clearly be a struggle to prove more competitive, and if, as seems more than likely, this will prove the case, we shall have to accustom ourselves to living with a higher level of unemployment than has been customary in decades of virtually full employment.

People are reluctant to face up to this particular fact, and not only because it entails a number of unpleasant consequences, but also because the powers that be are afraid of having to tell people they will have to lower their expectations.

Gone are the days when the pundits were proud to be the harbingers of unpalatable truths.

A number of truths can nonetheless be told. If a substantial proportion of the labour force is permanently unemployed (the jobless need not always be the same people, of course), then a larger share of what the employed earn (or of the domestic product *per se*) must be set aside for the jobless.

This is bound to have repercussions on the terms trade unions can expect to negotiate for their members — even though the unions may be reluctant to accept the fact.

As for deductions, welfare contributions are sure to increase. But they can only be increased further if the State forgoes higher taxation for purposes of general expenditure.

Contrary to what is generally claimed, the State is going to have to cut back its spending to the necessary minimum.

A number of welfare considerations also arise, particularly in the family context. Is it fair for both husband and wife to go out to work merely to maintain living standards when the breadwinners in other families are obliged to draw unemployment benefit?

What is more, greater mobility of labour seems likely to become indispensable. No longer can people expect to earn a living in one locality all their lives.

Smaller-scale redistribution of labour has frequently been undertaken in the past. Take, for instance, retraining schemes in the course of which Ruhr miners were taught motor industry trades. Instances of such mobility tend to be forgotten.

There remains a further, far more complex sector: unemployment among young people. Everyone is agreed that something must be done and done fast to combat youth unemployment.

In order to ensure equality of opportunity for all in future, youngsters must at least be given preferential treatment inasmuch as career training facilities are placed at their disposal.

Yet here too psychological and social problems arise. In the past it has rightly been noted that educational disadvantages are a handicap in later life.

The conclusion reached, however, was that a good education and career training would necessarily assure the recipients of improved social standing.

In all probability not everyone can automatically expect any longer to find employment in keeping with his or her education or career qualifications.

At all events the ideas of social privilege accruing from better education need no longer prove accurate.

So education must be viewed as an asset in itself, whereas actual employment will depend on the state of the job market at any given time. Mobility will certainly be required.

This is not to say that solutions are already available, but surely it is about time the decision-makers were seen to be devoting thought to the decisions that lie in store.

(Der Tagesspiegel, 4 September 1977)

Battle on three fronts against joblessness

Calls such as these are, of course, illogical from the putative outset. Economic recovery surely necessitates carefully nurturing the economic factors that have served the country so well in the past.

What is more, the government cannot hand out more than the economy yields. Indeed, in a country which is as dependent on exports as our own, the yardstick of handout potential is not economic performance, but export sales.

What advocates of drastic action and panaceas of one kind or another invariably tend to forget is that this country is still much better off than others, so the higher levels of output, exports and whatever which the Federal Republic of Germany has achieved in the past are still delivering the goods.

Were people only prepared to compare this country's economic position with that of its neighbours, they might also appreciate that Bonn cannot in the long term remain the exception rather than the rule when its neighbours are permanently in a less enviable economic position.

The crucial fact, however, is that we are probably not merely undergoing the vicissitudes of economic ups and downs for which this country ought, in theory, to be better prepared than in the past.

When not even the United States commands sufficient economic power to start the world's wheels turning again something different must have happened.

We are, in fact, currently experiencing an intensified struggle for the distribution of economic spoils between the

The main topic of debate in the Bundestag following the summer recess is as urgent as it is confusing. It concerns a large-scale economic and finance programme.

Proposals in this connection are as numerous as they are varied, and the final decisions are still uncertain — notwithstanding intensive preparation.

All in all, a classical situation of confusion prevails — a confusion which has proved to be a maze even for experts, let alone the man-in-the-street.

This state of affairs is not least due to the fact that our politicians are bent on a campaign on several fronts. They want to combat unemployment while at the same time achieving social effects and doing justice to the exigencies of foreign policy.

Due to the latest unsatisfactory statistical data the fight against unemployment has priority. This campaign is waged along three lines: by tax relief for business (aimed at releasing funds for investment), by fiscally unburdening the consumer (aimed at promoting demand) and by government measures.

● The first objective is to be served by better depreciation facilities for capital goods and in connection with research programmes as well as by a limited tax relief under the Stability Law, which would benefit business through corporate taxation.

● But such measures would be more likely to serve the second objective, namely to provide relief for the consumer at large; in other words, the mass of wage earners and tax-payers. This purpose would be achieved by increasing the basic tax-free amount and the tax-free portion of the Christmas bonus.

● Government measures would include the additional employment of civil servants and the lowering of the pensionable age as well as the granting of more development aid in the hopes of stepped up orders from the recipient countries as well as additional investment programmes by government (Federal, state and municipal).

Each of these major proposals under discussion has its underlying motives in the realm of social policy. Tax relief is to endow the *Soziale Marktwirtschaft* (Free Market Economy) with more scope.

"Left" groupings suspect that this is intended to add to the privileges of high earners. These "leftists" want to provide above all relief for the incomes of the masses in order to achieve a more equitable distribution of wealth.

It is furthermore obvious that the same elements favour government intervention.

And finally, there are foreign policy considerations at stake. Above all the United States has for some time been pressing Bonn to give booster shots to the economy priority over monetary stability.

The strong deutschmark has been a thorn in the flesh of other industrialised nations; and this might account for certain anti-German tendencies that have made themselves felt latterly.

A more inflationary policy — this would amount to forgoing certain tax revenues while at the same time stepping up state expenditures — would doubtless improve the atmosphere between the Federal Republic of Germany and its partners.

Although the meshing of economic, finance, social and foreign policy would no doubt be appropriate, it is extremely difficult to win such a war on several fronts.

Economic pragmatism, financial po-

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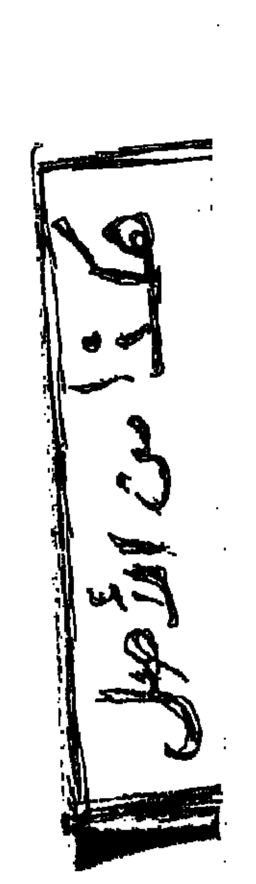
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■ DEVELOPMENT AID

SPD faces a tough choice on aid policy

Either more jobless in this country or more people starving to death in the Third World. This seems to be one of the choices facing those who are looking for alternative ways of giving aid to underdeveloped countries.

If we opened our markets without restriction to finished products from the Third World, particularly textiles and shoes this could mean that our markets would be flooded with cheap products. As a result, a large number of German firms in these branches would go to the wall. They would simply be unable to compete.

This is the dilemma in which the SPD finds itself at the moment.

On the one hand it is committed to defending the interests of the German worker in this period of crisis and anxiety; on the other, it takes the idea of international solidarity seriously and stands by the principle of eliminating hunger and poverty in the world, of defending justice and social progress.

A thousand million people are leading a life of utter poverty and misery today. Children become mentally defective shortly after birth because the lack of protein in their food means that the brain cannot develop.

SPD politicians in government office are fully aware of the gravity of this situation. But they also have to consider whether the proposals and demands being made in some quarters can be realised in practical, political terms.

A paper on development aid is now being worked out and will be presented to the party delegates at the party conference in Hamburg in November. They will then vote on it.

The recent forum in Wiesbaden did not come up with definite proposals or point out a clear direction for the future. Certainly possibilities were looked into and outlined. Policies can only be put into practice when they are supported by majorities.

There seems to be a lack of awareness among people in this country that the aid given to underdeveloped countries is ultimately in their interest as well.

Sacrifices will have to pay made to finance development programmes and it is understandable that people are not prepared to make them in the present economic situation.

Clearly, sacrifices have to be made, but the Wiesbaden forum gave no answer to the question: by whom?

This much is clear: to ensure the continuing supply of vital raw materials and to protect our presentand future labour markets, we have to help the underdeveloped countries to build up their economies.

This increases their purchasing power and brings in export orders for German industry. And this in turn protects jobs.

From an economic point of view, all this is perfectly reasonable. In practical terms, though, it means that certain branches of industry will have to be abandoned. The Third World is not prepared to wait for a gradual readjustment of our production structures. This was made clear at the Wiesbaden forum.

Manfred Beer

(Stuttgarter Nachrichten, 3 September 1977)

New balance

Continued from page 1

much comfort. Even the government has taken to opportunism in its attitude towards Bonn — no doubt with domestic developments in mind.

In comparison the course of events in this country as seen by the British media is described for the most part in terms which are scrupulously fair.

British commentators appreciate the difficulty Bonn is having in trying to cope with terrorism as a State that has hitherto proved profoundly liberal in its persuasions.

Inasmuch as British observers feel the situation in this country to be typically German, they refer to a "combination of criminal energy and the desire to prove perfect and absolute," to a disinclination to compromise of whatever kind and to the susceptibility to nihilism that is characteristic of German terrorists and their sympathisers.

Few additions need making to this assessment. We too are opposed to the terrorists because they appear to personify in perfection German traits of character that have proved disastrous in the past. (Der Tagesspiegel, 11 September 1977)

Continued from page 2

sibility, ideology and the tactical objectives of the various political parties in many instances hamper each other.

In most cases the differences of opinion are not restricted to opposing parties, but run straight through the Coalition and the Opposition since each of these groupings has its "rightist" and "leftists" trends.

Moreover, Bundestag and Bundesrat, both of whose approval is required for most of the envisaged measures, are dominated by different majorities.

This being so, a large majority composed of all parties will have to be found for the proposed measures. In this connection, the FDP (which is in coalition with the SPD in Bonn and with the CDU in some Federal states) might well play a key role.

But even the latest statement by Chancellor Helmut Schmidt gave no indication as to the final common denominator that will have to be found.

Heinzgünter Klein

(Der Tagesspiegel, 3 September 1977)

Partners to the developing countries
Shares in non-Opec developing countries import-export trade 1975 in %
Western industrialised countries: North America 23%, EEC members 24%, Japan 11%, Others 5%
Opec members 12%, East bloc 6%, others 3%, Developing countries 16%

Bonn to increase development aid budget by 19.8 p.c.

Minister of State Hans-Jürgen Wischnewski made the position clear right at the beginning of the conference on development.

Announcing that the government intended to increase the budget for development by at least 19.8 per cent, he took at least some of the wind out of party critics' sails and at the same time showed the Third World countries that Bonn is prepared to make its contribution towards a fairer economic balance.

This sign will, we hope, be understood by the developing countries and the other industrial nations: as an answer to the justified demands the poor countries are making of the rich, and as an example for other nations to follow.

The Bonn government hopes to achieve three things by its decision in principle to raise the development budget twice as much as the rest of the total budget.

It wants to meet the expectations of the Third World as far as possible. It wants to underline the fact that it cannot, and does not wish to, abdicate responsibility for giving moral aid to the poor countries. And finally this country is protecting its own economic interests by this move.

By increasing the purchasing power of the developing countries, it is helping its own export industry. Proposals made by Marie Schlei and others have quite clearly had a positive effect, as these measures show. *Karl-Ludwig Kelber*

(Lübecker Nachrichten, 2 September 1977)

Development aid — where it goes
Bilateral public aid by the Federal Republic of Germany 1950–1975 in thousands of millions of deutschmarks
Sri Lanka 0.31, Tanzania 0.32, South Korea 0.35, Spain 0.36, Nigeria 0.39, Ghana 0.41, Afghanistan 0.41, Tunisia 0.49, Bangladesh 0.50, Chile 0.56, Morocco 0.60, Brazil 0.73, Egypt 0.75, Yugoslavia 1.00, Indonesia 1.19, Turkey 1.34, Israel 1.48, Pakistan 1.86, India 3.77

Aid should be given higher priority, says Egon Bahr

Egon Bahr, general secretary of the SPD, has called upon the Social Democrats to ensure that more importance is attached to development policies in this country.

Speaking at the end of the two-day forum on development in Wiesbaden, Herr Bahr pointed out that the contribution that "the rich Federal Republic of Germany" made to development in the Third World was not as high as the average in other Western industrial countries and certainly did not correspond to its economic potential.

Bahr stressed that an SPD government would not insist on good behaviour from recipient countries before granting development aid. It was up to each country to choose its own way.

Clearly referring to the CDU/CSU, the SPD politician said that those who rejected the struggle by the majority for political power in southern Africa had forfeited the moral right to campaign selectively for human rights.

The rights of black people were of no less importance than those of people "calling themselves dissidents." In the struggle for freedom for the majority, there can be no neutrality for Social Democrats.

He went on to urge the government to maintain its policy of not supplying arms to freedom movements.

Marie Schlei, Minister for Economic Cooperation, pointed out that if the necessary credits were provided, German industry could receive orders from developing countries this year to the value of about a thousand million marks.

The minister went on to say that "these orders for investment goods are extremely important for employment in this country." Her proposals had been rejected by Chancellor Helmut Schmidt and Finance Minister Hans Apel at a cabinet meeting the previous week.

Frau Schlei pointed out, as Egon Bahr had done before her, that German aid to the Third World represented only 0.31 per cent of gross national product.

The twenty per cent increase in the development budget for 1978 to which the cabinet had given its approval would mean that Germany would reach the average of the other western industrial nations. (From 3.2 thousand million in 1977 to more than 3.8 thousand million in 1978.)

The minister also spoke in favour of setting aside 0.7 per cent of the gross national product for development aid in the 1980s, as recommended by the United Nations.

The Federal Government and Parliament would therefore "closely examine" ways of passing on the Marshall plan aid which this country was given thirty years ago to "those whose need is greater."

Helmut Wilhelms, board member of Siemens, stressed that "the more we secure and develop our industrial potential... the greater our chances are of remaining a powerful industrial nation and ensuring long-term security of employment."

The CDU has also declared itself in favour of more development aid. MP Volkmar Köhler regretted that the agreement to increase the development budget was announced at a party conference and not to parliament.

Heinz Heck

(Die Welt, 3 September 1977)

■ TERRORISM

The democratic State is limited in its powers



This country's urban guerrillas have long since crossed the murder threshold, but whatever the reasons may be, their readiness to resort to violence has escalated, as the abduction of Hanns-Martin Schleyer, the industrialist, in Cologne proved.

Herr Schleyer's driver and three police officers acting as bodyguards were gunned down in cold blood in order to get on with the abduction, which only goes to show how these fanatics have cast their inhibitions to the winds.

There can surely no longer be any gainsaying that they constitute a fatal threat not only to their immediate victims, but also, in the long term, to the country's democratic system of government.

Total disregard for human life in alleged pursuit of higher objectives was once equated with fascism in Germany. There is no reason for departing from this assessment. To try to pigeonhole cold-blooded murder politically is to disregard reality.

The crucial question we shall all have to face will arise when the culprits name their terms. How ought the government to respond to blackmail when life is at stake?

There are people who feel they could easily take a snap decision were the decision theirs. They usually call for uncompromising refusal at any price to contemplate giving in to terrorist blackmail — in the interest of the State and its citizens as a whole.

There are indeed demands which are so inordinate that they cannot possibly be met, but many people will recall the thought-provoking comment made by Bonn Interior Minister Werner Maihofer.

The State's battered prestige can always be repaired, he noted, but there is no way in which the loss of human life can be made good.

Professor Maihofer made this comment in connection with the abduction of West Berlin Christian Democrat leader Peter Lorenz, whose life was saved by flying gaoled terrorists out of the country to a destination of their choice.

Terrorists later raided Bonn's embassy in Stockholm with a further blackmail bid in mind. On this occasion Bonn refused to yield to their demands, but the outcome could hardly be rated a success in combating terrorism either.

At the time of writing no one knows for sure what has happened to Hanns-Martin Schleyer and what demands may be made, but advocates of raison d'état at all costs (most of whom will hold political views similar to those of the employers' leader) will certainly be forced to think again.

They will surely have second thoughts about the terrible responsibility leaving another human being to the tender mercies of his potential murderers entails.

I continue to feel there can be no question of sacrificing hostages unless, that is, the cost of securing their release would prove to be a fresh spate of murders committed by the fanatics released in exchange.

One point is sure. It is infinitely difficult to draw the line and distinguish between the limit as far as the State is concerned and the limit as far as the people who represent it are concerned.

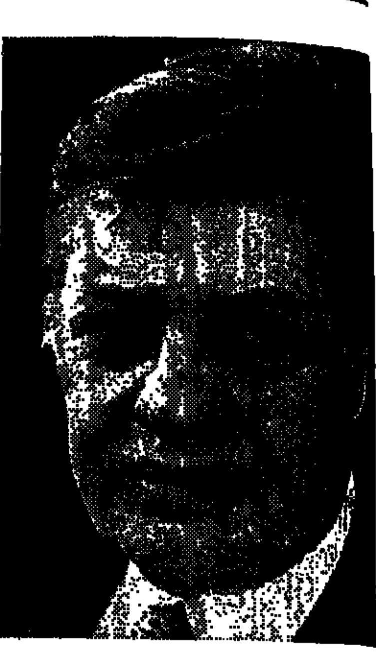
If this country really were a fascist instrument of human destruction as its fanatical enemies claim, if it really were a police State heading towards dictatorship, as lawyer Klaus Croissant, who has sought political asylum in France, claims, then no one would stop to think about matters such as these and no one would feel in the least unsure of themselves.

Under a dictatorship human life counts for as little as it does in the eyes of terrorists. There is nothing to choose between the two in the cold lack of moderation in their choice of responses.

The truth no doubt is that the terrorists know only too well how objectionable the vast majority of people in this country feel all forms of violence to be.

The majority want to live in a country in which violence is not considered a valid means of conducting political disputes.

Even if we knew with absolute certainty that what the terrorists want is to expose the sensitive nerve-ends of the democratic system and thereby lay bare an alleged weakness, no one must grant them the satisfaction of doing it their way and reverting to the law of the jungle.



Hanns-Martin Schleyer (Photo: Sven Simon)

It is not all that long since fanatical right-wingers glued a photo of Willy Brandt on the bull's eye prior to shooting practice. Now it is the self-proclaimed left-wingers who print underground pamphlets in which rifle sights are superimposed on photographs of their political enemies.

The ideology is the same. A democracy that intends to survive cannot afford to condone it.

Werner Holzer

(Frankfurter Rundschau, 7 September 1977)

The urban terrorists — German style

They regard *themselves* as revolutionaries and at times even (with a hint of national pride) as "German revolutionaries". But as far as public opinion is concerned, they are simply terrorists.

It might perhaps be more accurate to refer to them as urban guerrilleros since guerrilla warfare has become a specific form of political terrorism in our century.

In the Federal Republic of Germany they first gained notoriety some seven years ago as the socalled Red Army Army Faction (RAF). The RAF chose as their emblem the five-pointed star of the Uruguayan Tupamaros, adorned with an American sub-machine gun.

The overwhelming majority of our people is to this day unable to understand how it could be possible for a terrorists movement to declare war on the state and social order in a country such as the Federal Republic of Germany of all places, bearing in mind that conditions here can certainly not be compared with those of, say, Vietnam or Bolivia.

But even so, the late Ulrike Meinhof, one of the RAF leaders, maintained "that the organisation of armed resistance groups at this time in the Federal Republic of Germany and in West Berlin is right, possible and justified."

The founders of the RAF acted out of a sense of frustration about the (for them) unsatisfactory outcome of the 1967 student revolt. They had neither the inclination nor the patience to embark on the "long march" through the institutions of our state as advocated by Rudi Dutschke, left wing student leader of the sixties.

Horst Mahler, the former lawyer, and attorney for APO (the extra-parliamentary opposition), who turned his back on the guerrilleros during his term in prison, in retrospect describes the mood of the time as follows:

"It can only be termed deeply frustrating to recognise the necessity of a revolution with growing clarity and yet to be unable to know who and where the revolutionary class, in other words the beneficiaries of the revolution itself, actually are.

"And how easily can such a state of affairs lead to a mood of desperation!

"From there, via an abstract identification with the liberation struggles in the Third World, the further course led to out and out neck-or-nothing concepts."

But the leading figures of the first generation of terrorists — apart from Mahler and Meinhof, Gudrun Ensslin and Andreas Baader — were not only the flotsam of the student revolution, but also late victims of their nation's Nazi past, which they were unable to digest. They suffered from a feeling of collective guilt.

An English authoress, recently referred to them as the "children of Hitler".

Says Horst Mahler (born in 1936): "If I were faced with having to tell how it all started for me, it would be fascism that would come to mind. Outwardly, I had escaped it. But even after that era everything was still overshadowed by it somehow... I wanted to become one of the 'other Germans'."

Ulrike Meinhof (born in 1934) was never able to forget the day when her aunt was taken to Auschwitz concentration camp. Her contempt for the generation of the fathers found its culmination in Gudrun Ensslin's (born 1940) exclamation: "You cannot talk with people who made Auschwitz."

Such emotional conflicts remained alien to the second generation of terrorists.

These truant children of our affluent society are either revolted by the materialism of their upper and middle class families or — as people who wanted to climb the social ladder — frustrated by their future prospects, thwarted by the recession.

Interior Minister Werner Maihofer, a liberal theoretician and, in his function as the supreme head of the police force, in charge of the fight against terrorism, has a plausible explanation for the attitudes of these young people.

According to him, they are striving for a better world, but were unable to convert their revolutionary impulses into a commitment for reform in good time because day-to-day politics is viewed by them as being too unwieldy.

Thus they wound up in a cul-de-sac of murder, manslaughter and bank robbery.

As Horst Mahler put it: "Revolutionary politics is of necessity criminal."

These self-styled revolutionaries wanted to achieve their final goal, namely a socialist society, by means of a two-way strategy:

While on the one hand their peaceable comrades tried to imbue the people in factories, universities, schools, homes, etc. with the right political ideas, the armed commandos were to attack the state and eventually establish a red army which was to be on standby until the masses were ripe for revolution.

The RAF and the organisations that either succeeded it or competed with it (Movement Second June, Red Cells and the Haag-Maier Group) have religiously adhered in their actions to the formulas provided by their foreign idols.

Among these is, for instance, the "Handbook of The Urban Guerrilla" by the Brazilian Carlos Marighela (this book was initially distributed under the counter until it was published by Rowohlt Verlag in 1971 "not as an instruction for bombing games in a highly industrialised democracy but out of protest against arrest and torture in Brazil").

But the terrorists also learned their trade from the satirical "Anarchistic Cookbooks", from military instructions for guerrilla warfare, from newly-published works of Russian Nihilists or simply from textbooks on chemistry.

The structure of the commandos always follows the same pattern, and they are organised with German thoroughness:

1. The necessary funds of considerable magnitude which are needed for both living and warfare are obtained by bank robberies ("dispossessions").

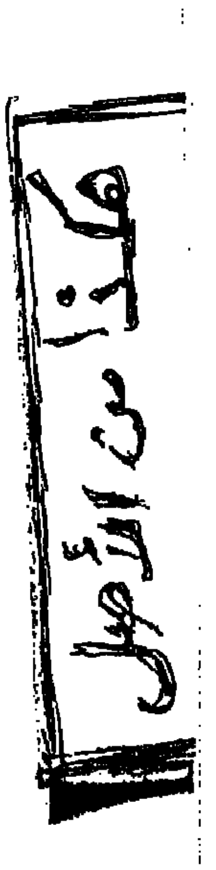
2. Arms and ammunition are usually purchased abroad or stolen from military arms depots, while bombs, incendiary bombs and other weaponry (such as the "Stalin Organ" which was recently used in Karlsruhe) are home-made.

3. So-called conspirative apartments are rented (at times in rather chichi residential areas and at times in basements and backyards), but usually in new and still partly empty apartment houses.

4. The required mobility and the constant change of position requires cars. These either stolen or obtained by fake rentals and subsequently doctored by specialists.

5. Other material such as passports,

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■ JOBS

New study lists four ways of boosting employment

Not only the study by the Prognos Institute in Basle, Switzerland, which predicted that the Federal Republic of Germany would have 1.5 million unemployed by 1980, has caused a considerable stir among the public; equally disquieting was the review presented by a member of the Federal Labour Office's Institute for Labour Market and Vocational Research.

The author of the latter study figured out that in order to reduce unemployment in the Federal Republic of Germany to 500,000 an economic growth rate of 6 per cent per annum would be necessary.

Should this target not be achieved and should the growth rate continue to hover around the 3.5 per cent mark, the high rate of joblessness would remain with us until 1985.

Should, on the other hand, the growth rate drop to 2.5 per cent, there would be close to three million people out of work by 1990.

The author points out that the supply of labour — due to demographic developments — is at present undergoing a fundamental change in trend. While the labour potential diminished by close to two million people in the period from 1960 to 1975 and as a result foreign labour had to be recruited, the next 15 years will make the people resulting from the heavy birth-rate years of the fifties and sixties swell the labour market by about one million job-seekers.

This will coincide with an era of uncertainty as to the availability of an adequate number of jobs.

In other words, the Federal Government is at present faced with the dual problem of providing employment for our one million jobless of today and of provoding an additional one million new jobs for the future.

A mere one per cent difference in the annual growth rate during the period from 1980 to 1990 would account for one million jobs more or one million jobs less.

Assuming an annual growth rate of 4.5 per cent, there will be 400,000 additional jobs by 1980 and approximately 1.5 million more jobs than in 1975 by 1990.

But such a growth rate (even if the number of foreign workers were to diminish) would not suffice to establish full employment by 1980. This target could not be achieved before 1990.

Experience shows that the classical instruments as used in the employment promotion law, among them subsidies for short-shift work, job incentives, further vocational training and retraining as well as general employment promotion measures, can only alleviate, but not cure, the problem of underemployment.

As a result, we need new employment strategies which go far beyond the conventional means of providing employment. A new and hitherto unpublished Prognos study, which was commissioned by the Bonn Minister for Education and Science, Helmut Rohde, lists four purpose-oriented measures by which to achieve full employment.

In its study Prognos suggests a massive promotion of technology as a means of solving world-wide bottlenecks which, it anticipates, would provide 400,000 additional jobs.

Modernisation and rehabilitation measures in the housing and urbanisation sectors would provide an estimated 150,000 jobs.

Stepped-up employment of society's marginal groups could account for an additional 150,000 jobs. And, lastly, increased development aid is estimated at being capable of providing employment for another 200,000.

According to the study, this primary effect accounting for some 900,000 jobs would trigger a secondary effect which would provide employment for an additional 300,000.

Thus full employment for a labour force of some 27 million could be achieved by 1990.

Additional measures in the taxation, levies and subsidies sectors could serve as a supplement to the traditional instruments of labour market policy.

It would, for instance, be conceivable in this connection to introduce employment premiums for companies providing new training facilities and jobs in underdeveloped regions or in particularly hard-hit branches of industry.

Moreover, orders, subsidies, credits, guarantees and preferential taxation could be made contingent on the creation of new jobs.

Direct government measures such as compulsory employment must be considered, says Prognos, especially in those instances where specific companies continuously operate extra shifts or provide overtime during a period of high unemployment.

Shorter working times in various forms could also help to alleviate the problem. Short-shift work, for instance, has already proven its worth as a means of preventing redundancies by distributing production shortages caused by inadequate orders equally.

The same should be feasible on a larger scale. Thus, for instance, an earlier introduction and full implementation of the compulsory tenth year of schooling would reduce Germany's labour force by some 200,000 by 1980.

And since this measure has in any event been envisaged for implementation in 1985, it would only be necessary to introduce it a few years earlier when this general educational aim would coincide with the exigencies of labour market policy.

Winners and losers in the jobs market

Workers in selected professions: Development 1973–76 in percentages

+ (winners)		− (losers)	
Social workers	47.6	Retailers and wholesalers	7.1
Dental technicians	34.1	Fitters and turners	8.8
Doctors and dentists' assistants	27.6	Building workers	15.4
Computer operators	27.0	Motor mechanics	16.3
Kindergarten workers	25.1	Post Office engineers	17.7
Primary, secondary and special school teachers	24.8	Miners	18.5
Senior white collar workers	18.1	Carpenters and joiners	19.5
Doctors	11.3	Welders	20.0
Managers	8.6	Painters and decorators	20.8
Electricaltechnicians	7.2	Compositors	22,0
		Tailors	22,5
		Foundry workers	27.7
		Iron and steel workers	33.7

CONDOR

It is also no secret that a lasting or temporary lowering of the flexibile retirement age would provide relief.

In quantative terms, the lowering of the retirement age to 62 would withdraw between 50,000 workers in 1980 and 100,000 in 1990. Should retirement age be lowered to 60, the figure for 1980 would be 150,000 and 230,000 for 1990.

On the other hand, there can be no doubt that a further reduction of weekly working hours would cause organisational problems for business.

Another problem fraught with difficulties is the question of organising a further reduction of working hours in such a manner that no labour-saving productivity increase leads to excessive increases in production costs, thus hampering economic growth in real terms.

Cost considerations should be taken into account when mapping alternative labour market strategies.

By and large, governments have under-estimated by far the cost of unemployment. The average expenditure and revenue shortages of governments (Federal, state and municipal) amounted to DM18,510 for each jobless in 1975.

By comparison, the average expenditures of the Federal Labour Office in providing employment measures amounted to about DM16,000 per worker annually.

This demonstrates in which direction considerations of costs in assessing the other measures aimed at diminishing unemployment must go.

With regard to the strategy aimed at reducing working times, the trade unions and management would have to arrive at some agreement concerning wage offsets.

Based on former experience with shorter working times, about one-thord of the shorter working hours was offset by increased productivity, while two-thirds led to additional employment.

As a result, it would be reasonable to apply a two-thirds ratio in figuring wage offsets for shorter working times.

Moreover, some balance between the state and business must be struck since the state would profit as a result of additional taxes, social security contributions and unspent unemployment benefits, while business would be financially at a disadvantage.

In order to overcome unemployment, the experts call above all for a consistent and growth-oriented economic policy which would not only concentrate on promoting investment, but also on encouraging consumption.

Wilhelm Reinhard Neu

(Hannoversche Allgemeine, 3 September 1977)

Continued from page 4

drivers' licences, rubber stamps and forms are also obtained by theft and forged by professionals. Two-way radios are simply bought, usually in leftist shops.

The Baader-Meinhof group was apprehended by the police as far back as the summer of 1972 and before it had a chance to develop properly.

It foundered on its own errors of judgment and, above all, on its isolation within the ultra left setup.

They failed in explaining the meaning and the purpose of their actions to the masses — as for instance why two simple workers were injured in their bomb attack on the Springer Building in Hamburg.

Some of their successors have learned from these mistakes.

Thus for instance the Movement Second June published documents following the kidnapping of Berlin's CDU Chairman Peter Lorenz in order to discredit his way of life and to show the financial manipulations of his party.

The Red Cells, on the other hand tried to gain popularity by incendiary attacks on the dossiers of citizens who has been caught riding on the city transit system without tickets and by an attack on the real estate speculator Günter Kaussen.

Following the defeat of the first guerrilla generation it initially seemed as if the police had gained the upper hand over terrorism. The hard core was behind bars while the small number that remained was isolated and without leadership and intellectual guidance.

But the RAF continued its fight from inside the prisons. Wittingly or unwittingly aided by their attorneys and other visitors, the prisoners succeeded in developing an information network between the individual prisons and with sympathisers at large.

Following the spectacular actions in the spring of 1975 (Lorenz kidnapping and the attack on the German Embassy in Stockholm) police, the Internal Security Agency and the Department of Justice engaged in a second major campaign as the result of which many terrorists were apprehended and brought to justice. The successor groups were forced to seek a temporary haven abroad. And those who remained at home organised themselves in small cells which were virtually impenetrable for the nation's secret service.

Meanwhile, the urban guerrilleros have stepped up their terror actions both quantitatively and qualitatively such an extent (assassination of Chief Federal Prosecutor Siegfried Buback and the banker Jürgen Ponto as well as the kidnapping of Hanns-Martin Schleyer) that they need to shirk comparison with the attacks of the spring of 1972.

State and society are once more faced with a challenge.

But since they cannot à la Hitler "counter brute force by brute force" the attackers will retain their advantage over the defenders; and the actual question facing us is that which the London historian Walter Laqueur recently posed when he asked: "What is the price that will have to be paid in order to eliminate terrorism?"

Karl-Heinz Janssen

(Die Zeit, 9 September 1977)

ECONOMICS

Record profits for business giants

DIE ZEIT

This country's turnover giants broke all profit records last year. Combined turnover of companies with sales exceeding 1,000 million deutschmarks increased by 8.7 per cent to just over 500,000 million marks, with profits (after tax but before reserves were set aside) up nearly 100 per cent from 6,800 to a little over 12,000 million deutschmarks.

Motor manufacturers and civil engineering contractors made the running, and not by dint of manpower cuts either. Payroll figures almost invariably indicate that more staff means higher turnover and profits.

Construction companies among the top hundred did most of their building abroad. Hochtief carried out seventy per cent more construction work abroad than in 1975, Beton- and Monierbau 84 per cent more, while Philipp Holzmann stepped up contract work abroad by no less than 107 per cent.

The top ten civil engineering firms accounted for nearly ninety per cent of foreign construction contracts — a total of roughly 12,300 million deutschmarks.

Several leading companies are again not listed because they prefer not to disclose trading figures. They include, for instance, Benteler and Coca Cola. What they hope to gain from this reticence is hard to see; it is a mystery even to their competitors.

Other companies, such as Deutsche Marathon Petroleum, were not listed despite turnover in this firm's case of 1,500 million deutschmarks, the reason being that they are mainly traders, not manufacturers.

Classification according to turnover presents problems in any case, with published figures varying substantially from one publication to another. Turnover can be defined in a number of ways.

Many companies issue three different balance sheets, one for the parent company, one for the parent company and its domestic subsidiaries in which a majority shareholding is held and a third for group turnover, profits and payroll all over the world.

In the case of Hoechst Chemicals the last-named category includes 466 companies of which 416 are registered abroad.

Since there are no generally accepted rules and regulations of accountancy governing balance sheets for worldwide operations, the figures cannot always be directly compared.

They certainly convey a realistic impression of this country's top 100 companies as they see themselves, however.

(Die Zeit, 2 September 1977)

Top ten trading companies

		1976 turnover in DM millions	p. c. change over 1975	Trading surplus in DM millions
1	Thyssen Handelsunion	9 302	+ 25.9	59.6
2	Stinnes	8 742	+ 16.1	42.5
3	Toepfer	7 755	+ 3.4	42.3
4	Deutsche Spar	7 286	+ 7.0	—
5	Karstadt	7 255	+ 2.8	125.0
6	Selex (A & O)	6 933	+ 15.4	—
7	Klöckner & Co.	6 770	+ 13.3	43.8
8	Quelle	6 646	+ 6.4	52.4
9	Kaufhof	6 351	+ 3.7	63.2
10	Edeka	6 300	+ 9.2	8.4

The two trading divisions of larger groups in the top ten came first and second. Raab Karcher, a Veba subsidiary, as is Stinnes, totalled DM7,043m in turnover last year but came eleventh after deduction of DM1,284m in oil duties. For the same reason Aral, whose turnover inclusive of oil duties totalled DM8,995m and would have rated third place, came fifteenth, trailing behind Hertie, Aldi and Rewe-Zentrale.

Top ten employers

		1976	Percentage change
1	Bundespost	461 576	— 1.5
2	Bundesbahn	390 607	— 4.8
3	Siemens	304 000	+ 2.7
4	Hoechst	182 980	+ 0.3
5	VW	176 824	+ 3.6
6	Bayer	171 200	+ 1.1
7	AEG-Telefunken	161 900	— 0.1
8	Daimler-Benz	160 863	+ 3.4
9	Ruhrkohle	140 660	— 3
10	Thyssen	139 585	— 2.8

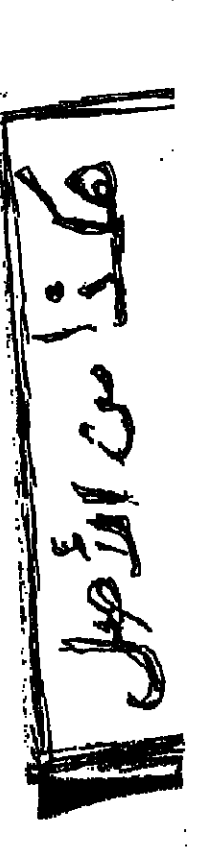
At the end of last year the top ten employers between them employed a payroll of 2.29 million, or nearly ten per cent of the gainfully employed. This figure was down marginally, by 56,171, on the previous year. But these figures are slightly misleading inasmuch as manufacturers include foreign and overseas staff. The Bayer group, for instance, employs 171,200 people all over the world, but only 64,336 in this country. AEG-Telefunken, on the other hand, employ only 30,100 staff abroad. The increase in Siemens' payroll is due to the takeover of Osram.

The top 100 firms in this country

Rating 1976	Rating 1975	Company	Industry	1976 turnover in millions	1976 turnover %age change	Exports[13] in %	Profits[14] in DM millions (loss in brackets) 1976	Profits 1975	Payroll at end of 1976	Payroll %age change
1	1	Veba	fuel & power	25 229[1]	+ 9.6	13	259	328	87 084	— 3.9
2	3	Hoechst	chemicals	23 465[2]	+ 15	67	580	291	182 980	+ 0.3
3	5	BASF	chemicals	23 157[4]	+ 15.7	54	375	507	112 686	+ 1.1
4	4	Daimler-Benz	motors	22 493[3]	+ 11.9	56	392	310	160 863	+ 3.4
5	7	VW	motors	21 423[3]	+ 13.6	62.3	1 004	(157)	176 824	+ 3.6
6	8	Bayer	chemicals	20 880[3]	+ 17.7	68.1	523	336	171 200	+ 1.1
7	6	Siemens	electrical	20 675[3]	+ 6	51	606	458	304 000	+ 2.7
8	2	Thyssen	steel	20 387	— 4.5	29	275	243	139 585	— 2.8
9	10	AEG-Telefunken	electrical	13 489	+ 6	44	352	(107)	161 900	— 0.1
10	12	Ruhrkohle	mining	12 310	+ 17.3	21	453	15.6	140 660	— 3
11	9	Mannesmann	steel & eng.	11 798	— 10	58	275.8	427.5	108 884	— 0.1
12	11	RWE	power	11 458	+ 9	—	448	382	58 269	— 0.3
13	13	Gutehoffnungsh.	engineering	11 073	+ 12.1	44.8	92.5	82.7	85 771	— 3.5
14	16	Dtsch. Shell	oil	9 802	+ 16.7	—	240.4	82.2	7 046	— 2.2
15	14	Fried. Krupp	steel & eng.	9 734	+ 4	38	0.6	(60.6)	76 161	— 3
16	15	Esso	oil	9 557[5]	+ 20	—	217.8	(57.3)	4 844	— 5.1
17	18	Salzgitter	steel & shipb.	8 859	— 5.6	38	(48)	18	56 313	— 2.7
18	21	Ford	motors	8 657	+ 36	54	51.8	49.8	52 929	+ 10
19	22	Opel	motors	8 500[6]	+ 37	48	720	49.7	58 000	+ 10
20	17	Bosch	electrical	8 319[3]	+ 14.3	38	224.1	136.9	74 100	+ 8.1
21	19	Flick	chemicals/paper/steel	7 235	+ 12.1	—	82.4	46.5	54 547	— 2.7
22	20	Dtsch. Unilever	food	6 722	+ 3.5	—	298	182	34 707	— 1.8
23	23	Metallges.	chemicals	6 225	+ 13.5	39	18	25	26 053	+ 2.4
24	25	IBM-Deutschland	electronics	5 960	+ 16	26	786.4	456.5	24 215	— 0.2
25	26	Henkel	chemicals & detergents	5 726[3]	+ 8.2	60	75.1	27.4	32 396	+ 1.5
26	24	Hoesch	steel	5 137			4.7[6]		49 936	+ 0.9
27	29	Dtsch. BP	oil	4 981[7]	+ 20	—	217	278	4 493	— 7
28	35	VIAG	industrial holdings	4 852	+ 30	—	66	(22)	21 736	+ 1
29	37	BMW	motors	4 756[3]	+ 32.8	60	126	74	34 030	+ 9.4
30	76	KWU	power	4 726	+ 64.3	—	40.7	40.5	16 926	+ 9
31	33	KHD	motors	4 433[3]	+ 4.7	59	48	39	20 639	— 2.4
32	31	Degussa	chemicals & metal	4 253[3]	+ 16.2	45.1	40.9	24.8	13 861	— 0.4
33	38	Mobil Oil	oil	4 218[8]	+ 19	—	184.2	40	2 423	— 6.1
34	32	Dtsch. Texaco	oil	4 110[9]	+ 10.9	—	43.4	5.5	5 896	— 6.3
35	39	Saarbergwerke	fuel & power	3 806	+ 18.1	—	13.1	(5.7)	29 169	— 0.1
36	30	Dtsch. Philips	electrical	3 805	+ 4.8	—	92	171.9	32 700	— 4
37	40	Ruhrgas	power	3 804	+ 29.2	—	110.7	80.7	3 211	+ 1.7
38	41	Dtsch. Babcock	industrial plant	3 516	+ 8	40	37.2	40.4	27 384	— 3.2
39	36	BBC	electrical	3 442	+ 3	32	49	36.9	37 000	— 4
40	34	Klöckner-Werke	steel	3 350	— 1	30	135.8	96	24 934	— 1
41	43	Oetker	food/shipping	3 300[6]	+ 8	—	—	—	15 000[6]	
42	42	Enka Glanzstoff	chemicals	3 028[3]	+ 9		15.1	(91.1)	20 188[3]	+ 8
43	83	Hochtief	construction	2 850[10]	+ 29	41	13.1	10.7	26 901	+ 12
44	63	Philipp Holzmann	construction	2 838[11]	+ 22.6	42	3.1	10.2	25 000	+ 11.6
45	46	VEW	power	2 707	+ 11.5	—	132	113	8 887	+ 1.4
46	45	SEL	electrical	2 698	+ 7.5	27	73	60	33 878	+ 0.4
47	49	Chem. Werke Hüls	chemicals	2 686	+ 17	48	64	59.9	14 074	+ 2.8
48	47	Preussag	coal & oil	2 675	+ 8.6	—	55.1	38.9	17 601	— 7.4
49	53	Bertelsmann	publishing	2 405	+ 12.7	25.9	55	73	21 829	+ 5.6
50	n	Neue Heimat	construction	2 400[11]	+ 20.7	7	4.4	25.7	5 209	— 3.8
51	48	Grundig	electrical	2 373	+ 15	45	146	62	31 381	— 3.5
52	52	Dtsch. Nestle	food	2 345	+ 7.8	—	108.5	90.3	13 074	— 4.3
53	54	Boehringer-Ingelh.	pharmaceuticals	2 214[3]	+ 9	66	40	45	19 431	— 0.7
54	55	Werhahn	conglomerate	2 181	+ 11		207	198	9 153	— 1
55	58	Rütgerswerke	chemicals	2 152[3]	+ 13	20	23.2	18.0	10 449	— 1
56	60	Bosch-Siemens	electrical	2 150[3]	+ 6	35	7	9.8	13 900	— 0.7
57	57	Varta	batteries	2 108	+ 12.2	21.8	48	34.8	21 845	+ 6.3
58	—	Magirus-Deutz	motors	2 010	+ 12.7	66.5	16.2	1.4	13 271	+ 5.5
59	61	Schering	pharmaceuticals	1 996	+ 11	61.7	65	55	17 966	— 1
60	56	Röchling-Burbach	steel & eng.	1 985	+ 5	38	(92.1)	(137.9)	18 632	
61	50	Reemtsma	tobacco & drink	1 974[12]	+ 3	12	129.8	83.6	17 512	+ 2.5
62	—	Bilfinger & Berger	construction	1 910[10]	+ 61	56	14.6	10.4	28 700	+ 76
63	62	Stahlw. Südwestfal.	steel	1 900	+ 6	23	18.9	4.0	14 112	— 3.9
64	65	ZF-Friedrichshafen	engineering	1 786[3]	+ 15.2	37.6	19.4	17.8	19 102	— 2.2
65	80	Rhein. Olefinwerke	petrochemicals	1 755	+ 26.5	—	16.3	(79.4)	3 415	— 0.3
66	59	Kugelfischer	bearings	1 748[3]	+ 3.9	44	2.8	18.9	23 609	— 6.1
67	66	VFW-Fokker	aircraft	1 701	+ 11	—	(6.1)	6.8	18 543	— 0.1
68	79	Zeiss-Stift.	optical	1 700	+ 10.6	45	0.14	3.2	28 123	
69	76	Linde	engineering	1 698	+ 16	47	31.2	28	14 757	+ 1.7
70	67	C. Freudenberg	leather	1 650[6]		51	500[6]	483.9	21 000	
71	70	Eschweiler Bergw.	mining	1 639	+ 7.8	—	0.597	8.6	18 849	— 1.6
72	68	MBB	aircraft	1 635	+ 7.7	27	10.1	10.1	20 123	+ 4
73	—	Strabag	construction	1 626	+ 12	34	35.8	7.1	17 859	+ 21
74	—	Dyckerhoff & Widm.	construction	1 616	+ 24	35	3.6	3.3	15 080	+ 7.8
75	71	Nordd. Affinerie	metals	1 546	+ 4.2	—	15.7	18.1	3 369	± 0
76	87	PWA	paper	1 534	+ 16.1	27.4	15.5	18.2	10 245	± 0
77	77	ITT-Beteiligung	holdings	1 500[6]	+ 12	20	30[6]	12.2	13 962	
78	69	Dillinger Hütte	steel	1 499	+ 0.3	—	7.8	12.7	5 676	— 7
79	84	HEW	power	1 460	+ 17	—	83	69	5 495	— 1.4
80	64	Continental	tyres	1 439	+ 5.1	25.1	6	3.6	18 674	— 4.7
81	82	Axel Springer	publishing	1 430	+ 12.4	—	10	6	9 902	+ 13
82	81	Merck	chemicals	1 427	+ 11.8	63	22.9	22.9	16 500	— 0.3
83	85	EVS	power	1 334	+ 8.5	—	72.3	46.6	4 272	— 0.3
84	—	Stadtw. München	power	1 324	+ 11.4	—	(38.7)	(77.2)	10 000	— 1.2
85	86	Fichtel & Sachs	engineering	1 297	+ 18.5	31	43.1	19.9	17 000	
86	90	Schmalbach-Lubeca	packaging	1 290	+ 10.5	—	15	0.1	11 070	+ 0.8
87	98	Wacker	chemicals	1 289[3]	+ 24	36	32.8	7.3	8 735	+ 2
88	—	Beton und Monier	construction	1 274[10]	+ 34	82.4	10.167	8	16 416	+ 19
89	—	Bauknecht	electrical	1 245	+ 14.5	46			13 000	+ 1.1
90	92	Du Pont	chemicals	1 237	+ 23	52	6	(31.7)	4 151	— 1.3
91	94	Conti-Gas	conglomerate	1 233	+ 10.8	—	30.9	28.4	1 896	— 0.1
92	93	Badenwerk	power	1 222	+ 13.7	—	64.7	39.6	8 316	— 0.2
93	97	Beiersdorf	chemicals	1 196	+ 14.2	49	39.3	34	8 808	+ 4.1
94	96	Melitta	paper	1 150[6]	+ 9	30			10 000	
95	—	Liebherr	engineering	1 148	+ 14.7	60	25.3	34.9	9 458	+ 11.8
96	74	Erdölchemie	chemicals	1 147	+ 19.5	—	(116.2)		2 794	+ 4.8
97	89	Felten & Guilleaume	electrical	1 142[3]	+ 3	31	(38.7)	(11.1)	12 295	— 7
98	99	Rasselstein	steel	1 110	+ 7.4	40.3	11	28	3 664	+ 8.8
99	—	Diehl	clocks/ordnance	1 101					12 834	+ 16.6
100	100	SKF	bearings	1 084	+ 4.4	39	9.7	35.8	12 000	— 8.2

[6] estimated

1 world turnover excl. Aral, Deminex and DM1,900m oil duties
2 world turnover incl. DM23,500m VAT
3 world/group turnover incl. subsidiaries in which parent company holds a stake of 50 % or more
4 excl. DM2,700m oil duties
5 excl. DM4,100m oil duties
6 Hoesch profits totalled DM22.6m
7 excl. DM1,900m oil duties
8 excl. DM700m oil duties
9 excl. DM1,700m oil duties
10 construction business only
11 company balance-sheet turnover, group turnover claimed to total DM5,400
12 excl. DM3,400m tobacco and beer duties
13 exports and/or overseas turnover
14 balance-sheet surplus for financial year



TECHNOLOGY

All the latest in sight and sound at the Berlin radio show



Never before has Karl Mende, the country's second-largest manufacturer of TV sets, exhibited so many new models at a Berlin radio show. Yet the two that are probably most important are not for sale.

One is a colour TV set with a built-in micro-computer; this is a model he intends to manufacture, but he is not yet sure when.

The other is a colour TV specially equipped to handle video data services and the like which is not scheduled to be marketed until 1982.

It is a slack year for radio show exhibitors, of course, with neither an Olympics nor a soccer World Cup to send customers flocking to the TV dealers' showrooms.

This year the Berlin radio show is the only major sales pitch, and both TV channels are doing their best to publicise it. The Berlin radio show is, after all, undoubtedly the largest trade fair of its kind in Europe, and maybe in the world.

No one would deny that the main purpose of the radio show is to boost sales. Fifty per cent of households in this country have colour TV sets, and nearly everyone has hi-fi or stereo equipment.

From 1980 on audiovision is expected to prove the next major market — video, in other words. So the sights are already being set.

Incorporation of a micro-computer in colour TV sets is unquestionably a major advance. Karl Mende may wonder whether he has not been too ambitious, but Blaupunkt and Siemens are already marketing micro-computer models.

Market saturation, says Blaupunkt's Dr Siegle, necessitates a wider range of models, and computerisation marks a new departure in comfort at the upper end of the range.

The major manufacturers' respective ranges certainly testify to a difference in outlook. Blaupunkt and Siemens sell sophisticated models requiring a degree of familiarity with the operating instructions, whereas Nordmende apparently have less confidence in their customers.

Nordmende sets are certainly easier to programme, but at the same time less versatile. Electronic programme selection is limited to nine options that can be preset no more than 24 hours in advance.

Blaupunkt and Siemens micro-computerised sets, on the other hand, can store up to twenty commands given up to a year in advance or repeated daily until such time as the instructions are cancelled.

When Blaupunkt and Siemens sets are programmed an electronic device must first scan the available channels to locate programmes.

The Nordmende set does not require this additional feature. If you know what channel local transmissions are screened on you can dial it direct.

With the Nordmende receiver viewers can dial by remote control up to 29 channels, whereas Blaupunkt and Siemens only handle nineteen, but with only three programmes from which to choose in most parts of the country this may hardly be felt to matter.

Other manufacturers have resurrected the idea of a picture within a picture, an insert that flashes into one corner of the screen to indicate what is on the other channels.

This idea was tried out without much success four years ago, and not all manufacturers have joined the bandwaggon.

There are colour receivers with up to three additional black-and white screenlets, but some manufacturers feel a swift remote-control change from one programme to another is sufficient.

The picture within a picture is certainly an expensive extra. The difference in price is so great that a second set, a black-and-white portable, could be bought for the cost.

There is an unmistakable trend towards smaller, 46 and 56-centimetre screens, while 1977 models on average use only half the power consumed by TV sets of a decade ago.

By and large the introduction of module components has made sets less prone to break down. According to one manufacturer 25 repairs now need carrying out on 100 sets sold within twelve months of sale.

Only a few years ago the corresponding figure was 100 out of 100, which does not, of course, mean that each and every set went wrong at some stage within a year of purchase; some needed repairing more than once.

Many models bear witness to a desire to improve sound reproduction, but limits are imposed by the quality of transmissions, which renders hi-fi reproduction impossible.

Amplifiers and loudspeakers are frequently better than might be inferred from the quality of reproduction receivers are obliged to provide.

Quality would appear to have become the rule in stereo equipment. Models that do not comply with hi-fi requirements are few and far between. This is not altogether surprising, since DIN hi-fi standards represent a compromise reached by manufacturers which has only presented difficulties in respect of cassette tape decks.

Hi-fi tape decks call for such complex electronics that they cost much the same as conventional tape recorders of comparable quality (which is easier to achieve with higher tape speeds).

Cassettes, however, are easier to handle. Japanese manufacturers are trying to launch a larger cassette which runs at higher speeds. The quality is undeniably better, but then the price is higher. The new cassette has probably arrived too late to gain a significant share of the market.

Stereo devices with separate tuner, speakers and record deck are growing increasingly up-market. In the medium and lower price-brackets combined record-players and radios or tape decks are gaining the upper hand.

The reason is, or so it would seem, that more and more customers are growing tired of the festoons of wiring needed to link up the various components.

Most manufacturers still provide quadrophony, but under the counter only, as it were, and few customers bother to enquire, which is, perhaps, hardly surprising.

The broadcasting authorities are partly to blame, since quadro transmissions are the exception rather than the rule and usually undertaken by accident rather than by design.

What is more, however, there are too few quadrophonic records and tapes available to make quadro particularly attractive, and many people who have invested in quadrophony are disappointed because it has not lived up to expectations.

For the time being broadcasters appear wholeheartedly to prefer stereo recorded with the aid of a synthetic head device, which ensures better quality.

Ambisonic, an all-round sound import from Britain, may yet reign supreme, although it did not figure prominently at the Berlin radio show.

A number of manufacturers claim that their equipment — in the higher price range, of course — can be adapted to ambisonic. Maybe the new technique will make its appearance at the next radio show in two years' time.

Technically it might well knock stereo into a cocked hat, but not mono, which is still adequate for many purposes. It should certainly prove more than a match for quadro.

The video market is in a state of flux. Despite a disappointing start Telefunken have yet to drop their ten-minute TED video disc, but are said to be interested in the VHS video cassettes developed by JVC of Japan. These new cassettes record for up to two hours.

They will, of course, be competing with the VCR cassettes, which both Grundig and Philips claim to have stepped up from sixty to 130 minutes. Other manufacturers have followed suit with VCR LP.

VHS should be available in this country by the middle of next year. The quality of its reproduction of a test card in Berlin was not entirely convincing, but improvements are promised.

JVC will also be launching a new and easy-to-handle VHS video camera which, they claim, could well replace super 8. With the recorder costing 3,000 deutschmarks or so and the camera 4,000 marks and more this claim seems fairly improbable.

A de luxe version of the VHS camera, incorporating zoom and and an electronic range-finder, will probably cost 1,000 marks more. The two-hour cassette, on the other hand, will cost only sixty marks or so.

CB radio came into its own for the first time at this year's Berlin radio show. It is a market in which Far Eastern manufacturers predominate.

The only device on show that was manufactured in this country was a car radio with CB (Citizens' Band) wavelengths. Domestic manufacturers do not yet seem to know what to make of CB.

But to judge by the US market CB should prove a tremendous growth sector. It will not be cosy and intimate in the way that manufacturers claim, however. A number of police forces already tune in regularly.

CB radio, which is not unduly sophisticated, incidentally, seems sure to have a number of surprises in store.

Walter Baier

(Frankfurter Rundschau, 3 September 1977)

A Videotext display at the show (Photo: dpa)

■ SCIENCE

Scientists discuss structure of matter at Hamburg symposium

About 2,300 years ago Democritus, the Greek philosopher, hit on the idea that everything around us might be made up of a few basic elements.

As far as he was concerned they were four in number: fire, water, earth and air. These four, he believed, are everlasting, indestructible and unchanging. He called them atoms, meaning indivisible.

We now know, of course, that Democritus's four elements are not the last word on the subject. They are not indivisible. All that remains of his idea is the word atom.

And even the atom can no longer be regarded as indivisible and has not been since the discovery of nuclear fission by Otto Hahn, a German chemist.

Yet oddly enough there was still talk of the four basic elements of matter at a recent international congress of physicists in Hamburg. Nowadays, however, they are not atoms, but quarks.

More than five hundred scientists from thirty countries spent a week discussing research into the basic structure of matter. They were in Hamburg for the International Symposium on Lepton and Photon Interaction at High Energies, which is held every other year.

Maybe it would be as well to start with a thumbnail sketch of what has been happening recently as far as scientists specialising in elementary particle research are concerned.

Scientists have known since the early years of this century that the atom consists of three different kinds of smaller particles: electrons, protons and neutrons.

Electrons orbit the nucleus like planets orbit the Sun, while the nucleus itself is composed of positively-charged protons and neutral neutrons.

For years physicists have been trying to discover whether these atomic particles, which between them account for virtually the sum total of matter, are not in fact made up of yet smaller particles.

In 1962 a US scientist, Murray Gell-Man, published his theory that these smaller particles do exist. He reckoned there are three kinds of what he called quarks, an artificial word he borrowed from James Joyce's *Finnegan's Wake.*

In 1969 Professor Gell-Man was awarded the Nobel physics prize for his theoretical work on the subject, but his theories have yet to be scientifically proved as fact.

It was obvious at Hamburg, however, that few, if any, leading physicists doubt the existence of quarks any longer. Over the past three years the pattern of evidence has grown so closely interlinked that few arguments can be advanced to dispute their existence.

This latest chain of research began with a discovery made in November 1974 by two other American physicists, Samuel Ting and Burton Richter.

Their discovery seemed to run counter to Gell-Man's theory inasmuch as it necessitated the addition of a fourth quark, which was dubbed "charm."

But the more the physicists came to learn about charm, the more they felt it bore out Gell-Man's theory except in one single respect, that there are four quarks, not three.

The final link in the chain of evidence available to prove the existence of "charm" was one of the three outstanding research results made public at the Hamburg conference.

Physicists working at the city's electron synchroton, a particle accelerator known as DESY (which in German is pronounced "Daisy"), have discovered what is know as the F meson, a particle which is phenomenally difficult to prove exists and consists of a charm quark and a strange quark (which are two different kinds of quark).

The combinations of charm quarks and the other two varieties, which are known as up and down quarks (for want of a better name), had already been discovered.

A second major event at the Hamburg congress concerned not the heavy elementary particles, the hadrons, but the lightweight particles, the best known of which is the electron.

Physicists term these lightweight particles leptons, and in recent months final doubts as to the existence of a superheavy brother of the electron, the so-called heavy lepton, which is 4,000 times heavier than the electron, have been dispelled.

With the confirmation of the heavy lepton's existence the number of leptons has probably increased from four to six, since a neutron counterpart may be presumed to exist and has been dubbed the heavy neutrino.

The existence of more than four leptons has started physicists thinking, since they tend to feel that leptons and quarks ought to be equal in number. In other words, there would seem to be more than four quarks too.

In Hamburg another American physicist, Professor Leon Lederman, provided the first pointer to the existence of a fifth quark. This, then, was the third major discovery unveiled in Hamburg.

At the Fermi laboratories near Chicago Professor Lederman has discovered a particle that is ten times heavier than a hydrogen atom and boasts properties that can only be explained by assuming it to be a fifth quark.

Lederman's discovery has yet to be confirmed, but physicists are already drawing their conclusions. How many quarks are there, they wonder. Will their existence ever be proved individually?

If, for that matter, there are many more varieties of quark awaiting discovery, which Professor Lederman suspects is the case, will they will turn out to be the smallest particles of matter or are they too made up of yet smaller particles?

These queries can only be answered with the aid of still larger research devices. Already the largest particle accelerators in use are four miles in circumference and cost hundreds of millions of deutschmarks.

One country alone will soon no longer be able to foot the bill of basic research in this sector, although the next generation of accelerators, Petra in Hamburg and Pep in Stanford, California, will still be built under the aegis of individual countries.

Talks are, however, under way with a view to international cooperation on the next generation but one, which will be particle accelerators with a circumference of up to thirty miles.

Reiner Korbmann

(Hannoversche Allgemeine, 2 September 1977)

One day we'll have a phone up our sleeves

Shades of Dick Tracy! Something like the wrist radio that the US comic strip hero detective uses in his fight against crime may soon become reality.

Scientists attending the 26th congress of the Hermann Oberth Association in Berlin this month heard about a new type of mini-telephone, equipped with microphone and transceiver, which can be strapped to the wrist like a quartz wristwatch.

Professor Philipp Hartl of Berlin's Technical University, said this latest scientific gadget would be useful not only in space travel. Right here on Earth it could, within a few years, be used via satellites, to enable 100 million people to easily talk to each other.

And thanks to space technology it is not only "total communication" which is now about to be made possible. Scientists also hotly debated the question of how we can leave our solar system and set up communities on other planets in the Milky Way.

This included suggestions which any laymen today would still consider as part of some far-off Utopia, but which serious scientists put forward as definitely within the realms of stark possibility.

For instance, Professor F. Winterberg, of the University of Nevada, suggested sending a complete self-contained community into Space. In fact his proposal envisaged an artificial type of city contained in a type of saucer with a diameter of one kilometre and 50 metres long.

This type of fantastic project shows that some prophets of what's-to-come-in-the-space-travel field are barely able to free themselves from their predisposition towards gigantic undertakings.

Be this as it may, Professor Winterberg did not think his space cylinder would become a reality for another 100 or even 200 years.

Other lecturers concentrated more on finding better and more efficient ways of fuelling future spaceships.

Current chemical fuels in use enable spaceships to attain speeds which are of use only within our known solar system.

If one wanted to fly to the nearest star in the Milky Way, for instance, using today's known means of propulsion, one would need hundreds of thousands of years to get there.

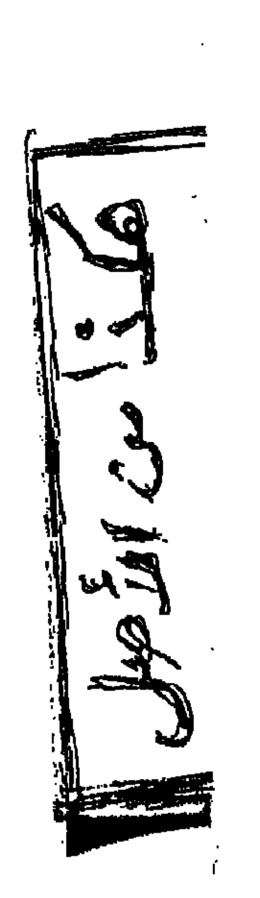
Among suggestions at the Berlin space conference was the use of electric propulsion units which would enable ionised gas to be propelled at extraordinarily high speed. Scientists also considered the possibilities of atomic propulsion including the fusion rocket — although it will take decades before Man will be able to adequately control the fusion process in laboratories on Earth.

Meanwhile, space experts are already dreaming of achieving the highest speed possible in space: the speed of light.

Theoretically we already know how to attain this speed. Matter, joined with so-called anti-matter, would be transformed 100 per cent into energy and thereby provide a laser-like light beam to power rockets.

But to achieve this, all the energy available on Earth would have to be brought into play — which means that this idea will no doubt remain no more than an idea for a long time to come.

(Frankfurter Allgemeine Zeitung für Deutschland, 6 September 1977)



■ EDUCATION

All universities in Europe should be European in their outlook, say experts

Europe is still very much on the academic agenda, as the inauguration of the Institute of European Studies at Badia Fiesolana, near Florence, has shown.

It was inaugurated to the sound of Ministerial acclaim, well staffed and generously endowed. The erstwhile monastery and Renaissance domain of Matteo Bosso stands a fair chance of becoming a Romantic idyll of European academic research.

This Florentine brains trust is by no means the first of its kind. In 1949, when Badia Fiesolana was still a religious boarding school, the College of Europe was established in Bruges, Belgium.

Bruges has a yearly intake of between 100 and 120 postgraduate students from at least fifteen countries. This year there are 124 students from 25 European and overseas countries, with students from this country second in number only to the Belgians.

The college library, which is open to visitors as well as full-time students and staff, boasts 80,000 books and periodocals and is rated one of the most comprehensive in the world on matters relating to European integration.

In Bruges the languages of instruction are French and English. In Florence German, Danish, Italian and Dutch are spoken too.

Initial intake at Badia Fiesolana comprises 73 research students, with *Germans and Italians coming equal first* numerically at fourteen each.

Eleven other nationalities are represented, but only the British are similarly in a position to field a soccer team. The 200 postgraduate students in Bruges and Florence all have one aim in common, a diploma in European studies.

Course and methods are inter-disciplinary, with the emphasis on special subjects. Students study not only legal, social or economic aspects of their chosen subject, but also inter-relationships, political repercussions and preconditions of integration.

Both students and staff benefit from differint university traditions, outlooks and methods of study and research, with the result that even without monastery walls and historic city-centres the two institutes have more in common with the medieval university than with its nineteenth-century successor.

European studies entail a more universal approach than the nationally-orientated, monodisciplimary outlook to which we have grown accustomed over the past century or so.

In addition to Florence and Bruges there are 69 departments or institutes of European studies at Common Market universities, although their terms of reference generally relate to one faculty only.

Oddly enough, Britain and France boast the largest number despite being widely regarded as countries that are predisposed towards placing obstacles in the way of European integration.

What is more, the two dozen French institutes and the sixteen British departments include multi-disciplinary and postgraduate courses, which are the exception rather than the rule.

In Strasbourg, at the intersection of Mediterranean and Northern European civilisations, as a brochure puts it, students at the Institut des Hautes Etudes Européennes have, since 1952, been able to crown their studies with a European diploma.

Here too, in Strasbourg's rue Schiller, many nations are represented. More than half the 63 students currently enrolled are not French. They come from twenty countries, and not only Europe, but also *Africa, Asia* and *America.*

As a rule only between forty and sixty per cent manage to put in the additional research required for a Strasbourg diploma in European studies; the remainder make do with a certificate.

The options vary from institute to institute and from country to country, but a PhD thesis in European studies is by no means out of the question.

In the Federal Republic of Germany well over 500 PhD theses on European integration have made the grade. In the various EEC countries some 2,500 dissertations on European affairs were submitted between 1952 and 1976.

The Strasbourg course, which may be considered typical of multi-disciplinary curricula, may be subdivided into four main sections:

— the history of Europe and the European idea;
— the administration and functions of European institutions and organisations within and outside the EEC;
— European trade: domestic and foreign trade, agricultural, regional and industria*lisation policies and stages of economic* integration;
— politics and social science with special reference to international relations.

No such masterplan can be taken to illustrate the general run of courses that stay within the scope of individual faculties. Course requirements are largely determined in accordance with the personal preference of the head of department. That is certainly true of this country.

The sole postgraduate institute with cohesive lecture courses in European economics, politics and law forms part of the University of the Saar and is headed by Professor L.-J. Constantinesco.

Courses last a single winter semester and are held primarily for law graduates, with the emphasis on Community law aspects of European integration.

As a result of university legislation in this country the Saar institute is currently undergoing a transitional phase, however, with the result that the dozen students attending the current course will qualify for neither a certificate nor a diploma.

At present neither option is available in this country.

The Saar institute has been in existence for 25 years. More recently courses in European studies have been inaugurated at the universities of Bonn, Bielefeld, Cologne, Göttingen, Hamburg, Mannheim, Munich, Tübingen and Würzburg.

As a rule they are primarily economics, law or political science courses. Interdisciplinary cooperation has since 1969 been coordinated by a European integration working party.

Founder-members of this association include Professor Alfred Müller-Armack, the current president of the working party, and Professor Walter Hallstein, the first president of the European Commission in Brussels.

The working party now has a membership of roughly 150, lawyers and economists for the most part, but not a single scientist.

In, say, chemistry and physics, research projects can be coordinated, but European integration of numbers, quantities and molecules is not yet feasible, apologists explain.

Connoisseurs of the European university scene claim that the establishment of European university institutes or complete universities is somewhat of a exercise in sleight of nomenclature.

In this day and age social, economic and political integration and interdependence are so widespread and far-reaching that all universities in Europe ought to be European in outlook if they claim in any way to be geared to practical requirements.

It is, they say, antediluvian to provide lawyers with a university training that blandly ignores European law or to train economists without ensuring that they gain an insight into economic circumstances and processes in neighbouring countries.

Universities in general must be Europeanised, the argument runs. There must be no more European 'cuckoo' eggs, no more European academic enclaves.

It is nonetheless acknowledged that such university courses in European studies as exist have been responsible for a welcome academic mobility within Europe, thereby fostering dialogues between opinion leaders, which is an indispensable prerequisite of integration.

In other respects mobility has diminished rather than increased, with an educational authority giving preference to its own and universities tending to impose a ban or ceiling on foreign students.

Does this, by any chance, mean that the much vaunted dialogue is virtually an exchange of opinion from one church tower to another, a debate conducted by blinkered bourgeois?

In addition to lecture, seminars, diplomas and dissertations European institutes and academic staff in all countries have spun an international web of complementary facilities.

Guest lectures are held, colloquiums, symposia and conferences. *Periodicals* are edited. The various facilities and their integration potential merit academic study for their own sake.

Bruges Week has made a name for itself, benefiting from the patronage of Europeans by profession, such as Leo Tindemans, Francois-Xavier Ortoli, Georg Kahn-Ackermann and Georges Spénale, and of no fewer than five Belgian Cabinet Ministers.

Its patrons ensure kudos and publicity, its academic staff ensure high standards.

Florence, however, is unlikely to prove the training-ground of a future generation of European officials. Funds are no longer as readily available as they once were for European and international organisations, many of which are already overstaffed.

Openings are still available, but only as a general rule, for Greeks, Spaniards and Portuguese, it would seem. Enquiries from these countries at the Council of Europe or the European Commission in Brussels indicate that they are optimistically preparing for their share of official appointments.

The initiators and directors of European institutes are not mainly concerned to ensure that former students find good jobs with European organisations, however.

Fernand L'Huillier, longstanding director of the Strasbourg institute, attaches substantial importance to institutionalised encounters between academic staff and future opinion leaders in their various countries.

"What matters," he says, "is to forge personal links and facilitate a frank and open dialogue across frontiers and barriers of mentality. The objective must be to break the bounds of a small-scale Europe of the technocrats."

Jürgen-Klaus von Zaleuski

(Deutsche Zeitung, 2 September 1977)

Study abroad regarded as a luxury, survey shows

This country runs a serious risk of being relegated to the status of an intellectual backwater, or so Professor Reimut Jochimsen fears.

Professor Jochimsen, state secretary to the Bonn Ministry of Education and Science, voices his anxiety in connection with two surveys of the interest shown by students and school-leavers in a course of study abroad.

The surveys, both commissioned by the Ministry, reach depressing conclusions. Eighty-two per cent of those questioned felt a semester or two abroad would prove worthwhile, but only five per cent intend to act on this conviction.

A similar trend was pinpointed a decade ago in a survey conducted by DAAD, the German Academic Exchange Service, but in the meantime the gap between word and deed has widened further.

There are good reasons why this is the case. A majority of students agree that a course of study abroad is of educational value inasmuch as it improves command of foreign languages, broadens horizons, fosters personality development and promotes international understanding, but these very qualities indicate the drawbacks.

A course of study abroad is evidently regarded as of general educational value, thereby qualifying as something of an academic luxury in the context of degree course and examination requirements.

The general tendency towards a lack of mobility is not due primarily to formal considerations, but to insecurity and anxiety with regard to the future.

Students nowadays, while not objecting to the idea of a semester or two abroad, are worried about the time they may lose, about the additional financial burden, the lack of an immediately discernible benefit in terms of academic or career prospects and the impossibility of having credits and qualifications gained at foreign universities acknowledged in this country.

Most students anticipate a further deterioration in the already depressing employment prospects for university gradu-

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■ THE ARTS

Art critics from all over the world confer in Cologne

Critics criticised critics at a recent four-day gathering of AICA, the International Association of Art Critics, in Cologne. It was the first time they have ever convened in this country.

Topics discussed, albeit behind doors closed to the general public, included Theories and Methods of Contemporary Art Criticism, Problems of Realism Today and The Expansion of Art.

Contributions were made by art critics from both East and West, with critics from the East bloc countries tending to concentrate on realism.

About one in four of the 180 or so delegates came from the GDR, Poland, Hungary, Yugoslavia, Rumania and the Soviet Union.

The congress was held in a relaxed atmosphere, but there was no lack of substantive self-questioning, self-criticism and even ironic fouling of one's own nest.

Applause and amused approval greeted Polish critic Mieczyslaw Porebski's views on Critics and Method, in which he outlined the painstaking endeavours by the critics' guild to borrow ideas from a plethora of scientific and academic disciplines.

"Sociologists and linguists have been consulted, phenomenologists and logicians, semiologists and ethnologists," he claimed. "Reference has also been made to the theory of information, the theory of play, to cybernetics, structuralism and psychoanalysis.

"At this rate we shall ourselves become philosophers, epistemologists, ontologists and axiologists in the search for an explanation for our growing impotence."

According to Porebski the only critical method that seriously merits consideration is "provocation to stimulate evocation." But can the critic aspire to *provocateur* status if, as Porebski well-nigh malignantly claims, he is a voyeur, fetishist, exhibitionist, sadist or masochist?

And what can you expect of a critic whose earlier life is described by Porebski in the following grim terms: "His was a difficult childhood, he failed to make it as an artist and now he is a critic."?

Yet, oddly enough, Porebski reaches the following conclusion: "For me the critic is first and foremost a player, a headlong player whose sole ambition is to ensure that the game goes on and that others join in."

Dutch critic H. L. C. Jaffé criticised the ill-considered conceptual nomenclature adopted by his fellow-critics and called into question the approach to art criticism based on history of development.

He noted, and provided ample evidence, that the language of Darwin has spread throughout the creative arts, and demonstrated that the laws of biology prove insufficient to account for artistic phenomena.

To illustrate his point, Jaffé examined the term "development", which is widely used in art criticism and art history.

"Development in the Darwinian sense of the term is not the same as tradition, which alone applies to history and to Mankind. Combination of and confusion between the two terms leads to results bordering on mystification."

As a means of conceptionalising artistic quality, Jaffé felt, both biological and economic (the old and the new) approaches are highly unsuitable.

"Biological development proceeds in accordance with laws governed by genetical factors, whereas creative art, in common with all other forms of human, social activity, is governed by laws that are dialectical in character.

"They are based on the response of the human intellect and imagination to events in Man's environment for which he himself is mainly responsible."

Linguistic outings into other disciplines were not what upset Georg Jappe of Cologne, representing this country. His criticism, in a contribution entitled Methods — Where Are They?, was levelled at lack of method and critical substance.

Jappe systematically analysed 692 newspaper reports on *documenta*, the Kassel art show, and concluded that Hamburg aestheticist Bazon Brock was right in his criticism of *documenta* critics.

Professor Brock accused an entire generation of critics of abdicating responsibility.

Jappe defines method not as a coherent system, but as an adequate interpretation. "That," he explained, "is why we ought, for instance, to be interested in whether the most frequently-mentioned artists really seem likely to make art history.

"The opposite would appear to be more conceivable, since there is next to no discussion of difficult artists any longer. But what, then, is the purpose of art criticism?"

Fellow-critics, Jappe complained, are still predisposed to pass judgment rather than to offer an interpretation, and this, he said, was as true of critics abroad as of critics in this country.

Criticism, he averred, ought also to encourage promising youngsters and to be objective in its criticism of VIPs among both critics and artists. "We must," he reckoned, "learn how to draw a clearer distinction between individual and object."

Last but not least, the trend must not be towards a handful of critics establishing themselves as taste-makers in small circles and proving difficult to distinguish from private art agents.

Hans Jürgen Papies and Peter H. Feist, both from the GDR, were very much at one with artistic bigwigs in their own country.

Papies dealt with the relationship between the arts and ideology, marshalling sound but somewhat one-sided arguments, while Feist reviewed the progress of realistic sculpture in the GDR.

Wolfgang Mattheuer, for instance, who rates himself a painter of political paintings, may comply with the prevailing ideology and political practice in the GDR, yet "by virtue of the entire artistic structure of his work he creates a pictorial model of specific living values in the GDR; he creates ideology and does not merely illustrate it."

Papies likewise asserts that this country's Joseph Beuys combines art and ideology, albeit not Marxist ideology.

"To this extent structure of an ideological system are indeed apparent, particularly since Beuys, in this complexity of his system, would also like to help bring about social change."

This comparison must have come as something of a surprise to Western listeners. Joseph Beuys, a social and art revolutionary, and Wolfgang Mattheuer, an affirmative socialist realist, cannot so easily be directly compared.

East bloc critics enthusiastically welcomed a worldwide renaissance of realistic painting. Vadim Polevoi of the Soviet Union hailed the renaissance of realism in seventies' art as part of a major historico-artistic process.

"Without venturing to anticipate the shape problems of realism may take in years to come," he declared, "I should like to stress that artistic development must necessarily give rise to problems of realism."

French critic Pierre Restany must have irked the advocates of realism by going on to assert that realism is a metaphor of power.

Werner Krüger

(Kölner Stadt-Anzeiger, 7 September 1977)

Terance Kalba, Gislinde Skroblin and Ivan Liska in the Triadic Ballet (Photo: Ilse Buhs)

Oskar Schlemmer's Triadic Ballet shown in Berlin

Bauhaus artist Oskar Schlemmer's work is currently undergoing a revival at the Trends of Twenties exhibition sponsored by the Council of Europe as part of West Berlin's *Festwochen.*

The reconstruction of his Triadic Ballet, premiered in Stuttgart in 1922, was decidedly a new production rather than a revival, since there are few records of the original choreography.

So Gerhard Bohner's choreography, seen by a packed house at the Akademie der Künste, was new, as was Hans-Joachim Hespos' specially-commissioned music.

Strictly speaking, only the costumes were Schlemmer's, copied either from the original costumes in Stuttgart's Staatsgalerie or from photographs and the artists's original designs.

This is a ballet that made art history. The costumes, strictly, stiffly geometrical, determine the choreography. Bizarre spirals and rotating discs are optically striking but restrict artistic leeway where motion is concerned.

Three dancers wearing eighteen costumes in all describe geometrical figures in three sections, each with its own colour scheme: yellow for the cheerful, burlesque, pink for the ceremonial and black for the mystical, fantastic.

This investigation of the relationship between Man and space based on an idea of Oskar Schlemmer's still ranks as an interesting experiment, or so today's public clearly feels.

(Hamburger Abendblatt, 5 September 1977)

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ates. Further delay will thus be to their disadvantage.

Lack of information about the opportunities that are available is another problem. "You may occasionally hear of other students who have spent time abroad," Professor Jochimsen explains, but fewer and fewer members of academic staff are encouraging students to follow suit.

Yet students who have been awarded a university place do not stand to forfeit it by spending time abroad. There are as yet no strict regulations governing the duration of courses, and even if such regulations are introduced there will still be the possibility of a sabbatical year.

What is more, postgraduate and DAAD grants are available. DAAD, for instance, had 1.8 million deutschmarks in grant allocations at its disposal in 1967; by 1973 the figure had increased to six million and it currently stands at roughly thirteen million deutschmarks.

Undergraduate grants for courses of study abroad are harder to come by. Less red tape and a more generous interpretation of grant provisions could work wonders.

At any one time roughly 9,500 university students from this country are studying abroad. The figure has remained constant for years. By international standards the Federal Republic of Germany has slumped from fourth to thirteenth place.

Between 1962 and 1972 countries such as France, Britain or the United States have doubled the number of their students abroad overseas.

"Students would do well to remember that time spent abroad can prove most beneficial at job interviews," Professor Jochimsen notes.

"A year spent in London, Prague or Uppsala will frequently make a more favourable impression on a potential employer than a university course completed in the shortest possible time."

Rolf Winkel

(Vorwärts, 25 August 1977)

■ MEDICINE

Doctors discuss causes of heart attacks at Karlsruhe congress



Anxiety about the heart attack hazard is widespread, and justifiably so. An increasing number of relatively young people are suffering heart attacks, many of which prove fatal.

For years there have been pet theories about what causes heart attacks, so much so that what might almost be termed ideologies have arisen and controversy has raged.

A platform discussion on The Heart Attack, Risk Factors, Realities or Ideologies? formed part of a recent therapy congress in Karlsruhe chaired by Professor Max Joseph Halhuber, director of Königshöhenried heart clinic.

The discussion was intended to clarify the situation, but as it happened it may well have left many doctors who attended even more confused than they were beforehand.

For years smoking, high blood pressure, a poorly balanced diet, lack of exercise and so-called psycho-social stress have been deemed responsible, in varying degrees and orders of importance, for the increase in heart attack cases.

They are all factors that could, in theory, be eliminated — if only, that is, we were capable of coping with ourselves and others. Thus the heart attack would seem to be a model complaint for elimination by means of preventive measures.

Heidelberg physiologist Professor Hans Schaefer, a specialist in social medicine, outlined in Karlsruhe a provocative set of theories designed to wreak havoc with accepted views on the subject.

It is far too early as yet to draw up a general theory of the heart attack, he claimed. So many inter-related factors are involved and too little is known about their inter-relationships.

Professor Halhuber, he felt, was taking the easy way out by referring to the WHO definition, which is that the heart attack is clearly characterised by pain and enzyme and electrocardiogram changes.

Professor Hans Erhard Bock, who has held overall responsibility for the therapy congress for many years, seconded Professor Halhuber, however, by reiterating the classic tenet that the heart attack is due to a coronary occlusion or thrombosis.

This classic theory has unfortunately fallen into slight disrepute inasmuch as it forms part of a controversial view held by a medical outsider, Stuttgart internal specialist Dr Berthold Kern, and his supporters.

Dr Kern and his somewhat fanatical associates draw a distinction between what they call a coronarogenic heart attack and a myocardiogenic heart attack.

The one is due to coronary failure, the other to a failure of the heart muscle, which, or so the Kernites claim, calls for special treatment, particularly a course of strophanthin tablets.

Dr Kern's pseudo-scientific attacks on established theory have wrought much havoc, but they ought not to be allowed to result in their more conventional opponents growing equally fanatical in advancing their views.

One established and surely undeniable fact is that a heart attack is due first and foremost to a discrepancy between supply and demand for oxygen, however caused.

When certain sections of the heart muscle which must have a regular oxygen supply to keep up its punishing nonstop work suddenly get too little oxygen they to all intents and purposes asphyxiate.

Cardiac muscle cells in the area in question die, causing the attack. Depending on the extent and location of the attack, the functions of the heart as a whole may be seriously impaired.

Oxygen supply is not the sole criterion, however, as Professor Schaefer pointed out. There are a number of others, although their individual effect cannot as yet be ascertained.

There are, for instance, the electrolytes, which play a part in the metabolism of heart muscle cells. The first and foremost of these is calcium.

Then there is the way in which nerve stimuli are passed on to the coronaries, which is as yet a complete mystery. All that is known is that the coronary vessels contract when certain stimuli are passed through the vagues nerve by means of acetylcholin, the carrier substance.

Professor Schaefer is convinced that *most coronary thromboses occur after the* heart attack, not beforehand. Thus the classic theory explaining how heart attacks are caused must be abandoned or at least expanded, and not because it is wrong, but because it is too one-sided.

Professor Ebstein from Zürich, a Swiss specialist in social medicine, dealt with a number of assertions he termed either wrong or partly wrong. They related mainly to the role of dietary imbalance in causing either heart attacks or sclerosis.

It is wrong, he said, to maintain that the causes of arterial sclerosis are unknown, that hereditary factors rather than environmental influences play a crucial part in the causation of heart attacks and that dietary changes, especially in relation to fats, cannot reduce the risk in either case.

Professor Ebstein sought in great detail to back up his contention that arterial sclerosis, coronary thrombosis and the various risk factors are to a large extent causally connected.

This, he said, was why he is in favour of retaining the established term "risk factor" rather than replacing it with the concept "risk indicator."

Professor Schaefer, on the other hand, was only prepared to class as risk factors those which are measurable in the context of body and soul and can demonstrably be shown to lead to the complaint in question.

He felt it was important to draw a distinction between risk indicators and more tangible, measurable factors which can be taken as a sure sign that the patient is more likely to suffer from the complaint than might otherwise be the case.

Professor Schaefer referred in this contaxt to Swedish work on identical and unidentical twins which came to an interesting conclusion. Unidentical twins, it appears, stand the same risk of suffering a heart attack as anyone else, always assuming that risk factors were the same.

The influence of classical risk factors is extremely slight where heart attacks among identical twins are concerned. This might seem to indicate that heart attacks are hereditary after all, despite what Professor Ebstein felt.

The Swedish research project certainly appears to prove that heart attacks can be personality-linked. Thus the risk of suffering from a heart attack would depend to some extent on the emotional make-up of the individual.

Heart attacks definitely do not come like a bolt out of the blue. There are definite hormone and other biochemical processes that occur simultaneously, consecutively, contrarily and whatever.

As yet they remain to be defined clearly, but a clear definition will prove possible sooner or later. Current lack of scientific clarity is no excuse for making do with conventional, hand-me-down, relatively simple theories to explain how heart attacks are caused.

Wilhelm Girstenbrey

(Hannoversche Allgemeine, 1 September 1977)

Doctor blames misuse of 'cheer-up' pills for rising suicide rate

DIE WELT

The weather has been none too good this summer and on average there has been one suicide every three quarters of an hour. In the letters they have left behind suicides have actually referred to the nonstop rain as one of the reasons why they have decided to end it all.

They also refer to poor employment prospects, to poor prospects of world peace and to the fact that the world in general is bad as contributory factors.

Suicides have certainly increased in number of late, and Professor M. I. Bickel of Berne University attributes the increase to the misuse of medicines that are intended to forestall suicide.

"A healthy individual will not commit suicide," Viennese suicide specialist Professor Erwin Ringel claim, and this view is widely shared.

Would-be suicides are invariably in psychic trouble of one kind or another. The decision is usually taken in a state of depression.

There is now a whole range of anti-depressive drugs. They work by cheering people up. Professor Bickel has discovered that most anti-depressives have a two-phase effect.

They start by stepping up psycho-motorial drive, stimulating activity and the powers of decision. Then they cheer the patient up. So the patient may feel the urge to act before he feels less depressed.

If the worst comes to the worst he may resolve to commit suicide. He certainly has the means at his command. An overdose of the pills he has just taken may easily have the desired effect.

Professor Bickel feels the problem is an urgent one because depression has increased by leaps and bounds in recent years. According to the latest WHO statistics between three and five per cent of world's population suffer from recurring bouts of depression.

This figure has long been overtaken

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Thalidomide lessons have still not been learnt, warns doctor

Frankfurter Neue Presse

Sixteen years after thalidomide the lessons have still not been learnt, claims Frankfurt paediatrician Professor Otto Hoevels.

Opening a refresher course for pharmacists at Travemünde on 29 August Professor Hoevels noted that drug consumption during the first six months of pregnancy has quadrupled over the past ten years.

Yet since the thalidomide affair it has been generally agreed that pregnant women should be prescribed as few drugs as possible, especially during the early stages of pregnancy.

Towards the end of pregnancy too, he added, drug consumption in 1971 was three times higher than it had been in 1961. In his view too little is known about organic processes that take place during pregnancy for drugs to be taken by a pregnant woman at positively no risk to the unborn child.

Medical science does not even know, for instance, how the unborn child disposes of medicine or indeed the role played in this process by the placenta.

Miscarriages may result, the professor pointed out. So may deformities, growth impediments or disturbed adjustment to life outside the womb.

As for medicine taken during childbirth, it may endanger the baby's chances of survival, Professor Hoevels claims. The extent of damage done depends not only on how much of a particular drug was taken at what stage of pregnancy, but also on whether the metabolic effect impairs the child's development.

The failure to learn the lessons of thalidomide is not the only disgrace to which the professor chose to refer. Another is the incidence of death by poisoning among children.

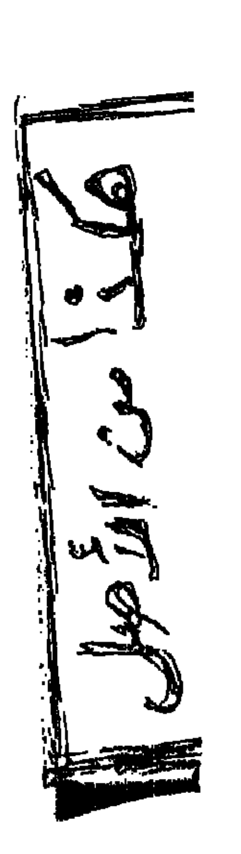
It is, he said, "a disgraceful indication of lack of readiness on the part of people in our civilisation to learn obvious lessons from the course of events."

Every year between fifteen and thirty thousand children in this country require medical attention after swallowing poison of one kind or another. For between 200 and 300 of them medical assistance comes too late.

Half take medicines, half take household substances such as detergents. The main reason why such tragedies occur is the parents are careless in handling these substances.

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(Frankfurter Neue Presse, 30 August 1977)



■ PUGWASH CONFERENCE

300 delegates attend this year's discussions in Munich

This year's Pugwash conference met in Munich. It is a group of scientists from more than thirty countries who meet to review problems arising from scientific progress and the development of weapons of mass destruction. At Munich delegates agreed that disarmament alone will forestall the danger of a third world war.

"Sixty-five years ago," Philip Noel-Baker recalled, "I spent some time in the sun, listening to music and laughter, and in happy friendship with young Germans in Munich."

He went swimming in the Starnberger See, mountaineering near Kufstein and felt happy in the years leading up to the First World War.

Nowadays Lord Noel-Baker, 88, who was awarded the Nobel peace prize in 1959, is more sceptical of an era that was followed by two successive World Wars.

More than 300 delegates at this year's Pugwash conference in Munich gave him a standing ovation, but his personal recollections eloquently demonstrated how ineffective good will alone is in bringing about international disarmament.

Lord Noel-Baker described with a note of resignation how he had been associated with the drafting of disarmament treaties in the aftermath of the First World War.

When every final detail had been settled one solitary superpower boycotted the agreement. It happened to be his own country, Britain, which was more influential in those days.

"It was strategic nonsense, as we all pointed out at the time," Lord Noel-Baker recalled. He appealed to the Great Powers to show common sense now at least, in 1977. "Disband troops and destroy weapons of an offensive nature that serve purposes of aggression."

Such hopes, which have proved ineffective on more than one occasion in history, were the keynote of the first Pugwash public debate, whereas delegates observed strict silence about what was discussed in working parties.

They were well advised to do so, or so critics from their own ranks claimed who no longer feel able to hide their dissatisfaction with the current lack of influence of a scientific pressure group that used to be an effective force for peace.

This country's Carl Friedrich von Weizsäcker likewise felt "completely disillusioned" with the Munich Pugwash conference, held exactly twenty years after the first conference in Pugwash, Nova Scotia.

Scientists do indeed seem increasingly dissatisfied with what Pugwash has to show for itself these days. Weizsäcker may feel that governments mainly appreciate these gatherings of "eggheads" because they occasionally come up with ingenious solutions to specific problems, but Dr Balevski, a Bulgarian delegate, is significantly more self-critical.

Balevski reckons science has much to answer for in having provided the powers that be with the nuclear button which can end life on Earth as we know it at one fell swoop.

"We scientists will one day have a most uneasy conscience," he said. Balevski is convinced that science is chiefly responsible for the future of Mankind.

Basically anxiety is the guiding principle. "Were it not for anxiety, Mankind would be unable to survive," he claimed, "but what a worry for everyone to realise that a nuclear holocaust would leave no one unscathed."

Weizsäcker, on the other hand, is convinced the Third World War would long since have been waged were it not for the deterrent effect of the nuclear counterstrike option, which he termed "one of the most ingenious stratagems scientists ever invented."

In today's deterrent balance numerical considerations still have a major role to play, but the qualitative arms race, the race to develop ever more ingenious weapons of mass destruction, is more dangerous by far, Professor von Weizsäcker affirmed.

"Lasting disarmament is based on technical equipment which is swiftly rendered obslolete," he pointed out, adding that in his opinion "the Third World War will begin on the very day the side that starts it is technically in a position to win."

Thus a number of delegates talked in terms of disarmament and were obviously trying to salve their own uneasy consciences. Alexander Markov, head of the Soviet delegation, sounded a warning note about the neutron trigger sparking off nuclear warfare.

Third World delegates, on the other hand, felt concern about entirely different problems. "Peace," said Egyptian delegate Abdel Rahman, "has been mentioned a hundred times; justice not once."

He pointed out that security is very much a matter of justice and fair play. Talk of world peace means no more than that a nuclear holocaust is virtually impossible. A Soviet delegate agreed inasmuch as no one could hope to emerge as the victor of a nuclear war.

Pugwash delegates from the socialist countries may have been very much in favour of disarmament, but they went out of their way to avoid public mention of human rights.

Officially no mention was made of petitions on behalf of a former Pugwash delegate who is currently in prison in the Soviet Union. Petitions were circulated unofficially.

"There can be no peace without plain speaking," Carl Friedrich von Weizsäcker commented with the East bloc leaders in mind, but he too took good care not to be too outspoken.

He made do with expressing satisfaction that mention had at least been made of the human rights issue.

Rolf Henkel

(Kölner Stadt-Anzeiger, 30 August 1977)

OUR WORLD

Hidden water everywhere, but Carl Arens knows how to find it



When Carl Arens, 62, from Attendorn, a village in the Sauerland region of Westphalia, goes for a walk he occasionally jerks as though he had collided with an electric fence or trodden on a live wire.

Arens himself is unperturbed. He has known the feeling since childhood. But it is not rheumatism, it is water. Carl Arens is a water diviner.

Were Arens, with his gentle expression and pale blue eyes, to try to explain the phenomenon to a hydrogeologist the scientist would probably shake his head in disbelief. There is nothing more unscientific.

But the locals are used to seeing Carl Arens out and about with a forked hazel twig or a pendulum. "The old man is out divining again," they say to themselves, giving the matter no further thought.

Most people know what a water diviner is and does, even if they have never seen one in action. Carl Arens' only concession to modern technology is that he now uses forked rods of metal because the twigs break too easily.

His is an age-old craft, but Arens is not given to mumbo-jumbo. What is more, he delivers the goods, as he has *demonstrated on nearly eighty occasions* over the years. His latest find was for a water board in the Ruhr.

Holes were bored at the points he indicated — and up came the water, in some cases at a rate of 54,000 litres an hour, from a depth of between eighty and a hundred metres (262-328ft).

Carl Arens is particularly proud of this achievement. It is his most successful find ever and, for the time being at least, a fitting climax to his career.

It all began when he was a boy. Water was running short at the family home in Attendorn. The pump in the yard brought up less and less water from an almost empty well.

Arens' father consulted a monk he knew to be a water diviner. The monk pulled a forked hazel twig out of his vestments, walked round the family's land and did indeed find another well.

Having done so he threw away the twig. Carl, who had watched the procedure from a distance, surreptitiously retrieved the forked twig and tried his luck, only to discover that the twig responded for him too!

From then on young Carl was regularly consulted by local people before they sank a fresh well. So he decided to combine business with pleasure, served his apprenticeship as a toolmaker and manufactured pumps, he sold to clients for whom he located water.

He still does, and the family firm has a payroll of seventeen, including Carl Arens' two sons, who unfortunately have not inherited their father's talent as a water diviner.

During the war other members of his unit soon learnt what it was like to have a water diviner in their midst. While they shouldered a rifle at the very least, he saw active service armed with no more than a forked twig and a pendulum.

He really made a name for himself in 1940 and 1942 when he went divining not far from home on the recommendation of a nature healer and discovered veins of heavy metal at a depth of 6,000 metres (20,000ft).

The deposits were so powerful that they nearly knocked him over. The Armaments Ministry rushed a rig to the spot and Carl Arens soon turned out to have located uranium deposits.

When the war was over Carl Arens returned to more peaceful, civilian pursuits. But he had made a name for himself as far afield as Cologne and was frequently consulted by housebuilders.

They were more than happy to know where to sink a well if need by but their main worry was that the house might turn out to be perched on top of a subterranean river or lake, with unforeseen health consequences.

What they wanted, for the most part, was for Carl Arens to divine the course, direction and size of subterranean water resources so that they knew just where they stood, as it were.

This fear of underground water courses as a health hazard is not such an old wives' tale as you might imagine. Scientists have proved that radiation emanating from the bowels of the Earth is interrupted and diverted by subterranean water courses, with the result that radiation can prove particularly powerful at such points.

You can even see the repercussions of these "geopathogenic" zones on Mother Nature. Tree trunks are full of irregularities which are, in fact, cancer tumours — or trunks are twisted and crippled.

At points where these phenomena are observed electrical radiation potential of the kind noted by Sir Michael Faraday in 1831 is to be found.

Animals too are ill at ease on top of an underground water course. Dairy cows were found to give poorer yields in new stables. After a further move their output returned to normal. They had been standing on top of a subterranean water supply.

People too are susceptible to the influence, with doctors diagnosing blood changes, disturbances of the central nervous system, cardiac upsets and an above-average tendency to contract tumours.

Men and women who have tried to get a night's sleep on such spots have complained about insomnia, nightmares, tiredness, the shivers and attacks of nerves. Rheumatism is aggravated — the ground is colder, the air damper. Cold, damp air rises, chills the surface of the skin and upsets the circulation.

Carl Arens recalls the story of a sixty-odd-year-old lady from Dellbrück, Cologne, whose doctors were, therapeutically speaking, at their wits' end. Radiation, they felt, was the only remaining explanation of her complaint.

A Cologne doctor eventually consulted the Attendorn water diviner. Arens reckons the divining fork responded powerfully the moment he set foot in the lady's house.

Drilling revealed a strong flow of water beneath the bedroom floor at a depth of only 2.30 metres (7ft 6in). The water was diverted, the woman recovered.

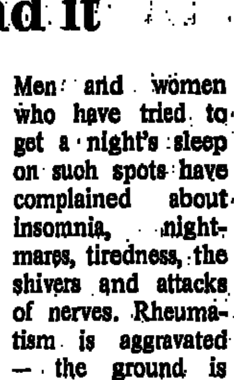
Carl Arens claims to divine water at depths of up to 400 metres (1,300ft) and to help his clients to save money. He once located water for a Lüdenscheid firm that saves the company roughly 100,000 deutschmarks a year.

This was the annual water rate the firm had previously paid. The water bill is now zero, the only extra cost that of the electric power for the water pumps supplied, as it happens, by Carl Arens.

Water divining is hard work. It has always been a strain on Arens, who suffered a heart attack three years ago. His doctor told him to give up divining for his health's sake (but asked him to do one last job for his medical practitioner before calling it a day).

Carl Arens smiled at this advice and has chosen to disregard it. He still has a divining rod at the ready should the need arise, although his wife Erna frequently tells him to throw it away.

Arens can understand people poking fun at him. What he cannot stand is deceit. There have been people for whom he has gone divining, only to be sent packing as an old fool. Yet they drilled holes at the points he had indicated — and struck water!





Carl Arens in action (Photo: A. ...)

If he had taken a fee every time he divined water Carl Arens would probably be a rich man by now. But he has never accepted cash payment.

Even so, it tickles his fancy to imagine that he might long since have been a dollar millionaire if he had chosen to use his powers in the desert.

But he now feel he is too old to take up his craft in warmer climes. Besides, it would probably ruin his health. As it is he is so sensitive to bad weather that he can sense a storm brewing hours beforehand. His blood pressure *plummets* and he feels distinctly nervous.

Arens feels, moreover, that he still has work to do in this country. He anticipates serious water shortages in the years ahead and, to judge by the problems that are already arising, his forecasts seem alarmingly accurate.

He advises sceptics to have a word with a Koblenz monk who is a fellow diviner and a member of the water diviners' association. Arens is a great admirer of Fr Tembrock's. "When he lectures the geologists they stay glued to their seats," Arens says.

Ridicule leaves him unruffled. "Let 'em laugh," he says. "When they are at their wits' end they all consult me sooner or later." His clients range from breweries and water boards to companies and private individuals.

Barbara aus der Wiesche

(Kölner Stadt-Anzeiger, 3 September 1977)

Suicide rate

Continued from page 12

by events, certainly in the industrialised countries. A survey conducted in a Berlin factory revealed not long ago that 43.5 per cent of the staff suffer from "repeated bouts of depression for no apparent reason."

Of the total population of midtown Manhattan, the intellectual centre of New York, no fewer than 23.6 per cent were recently found to be depressive.

Depression, experts agree, is a typically paradoxial reaction to affluence and a surfeit of everything. When it occurs in its milder form people just feel moody, and occasionally, or indeed frequently, take a gloomy view of the world.

Moodiness becomes depression when it recurs frequently and for no apparent reason or when the reason stated bears no logical relationship to the patient's psychic condition.

Depression is nowadays regarded as a psychic disorder that can have catastrophic repercussions. Professor Helmchen, head of the psychiatric clinic at the Free University, West Berlin, reports that one person in six who suffers from depression to an extent requiring treatment dies by his or her own hand.

A characteristic feature of chronic depression is that it is endogenous, occurring unpredictably and for no apparent reason. Women who live on their own probably suffer most frequently from bouts of depression, but old-age pensioners in general, and intellectuals, likewise frequent sufferers.

Numbers can only be estimated, as psychiatrists repeatedly lament, victims of depression are treated by general practitioners, who are often not in a position to appreciate the seriousness of the complaint.

The right treatment is another matter. Specialists each have their own methods of dealing with depressive patients, forestalling suicide bids at least.

Professor Bickel has one immediate suggestion to make from his research work. Anti-depressive drugs, he ought to be packaged in smaller and prescribed in quantities insufficient to permit a potential suicide from successfully taking an overdose.

Herbert L. Sch[illegible]



SPORT

Amateur athletics World Cup may become a regular event

The amateur athletics World Cup was premiered at Rheinstadion, Düsseldorf, from 2 to 4 September, and despite many organisational mishaps and upsets a crowd which grew from one day to the next evidently felt it was given value for money.

Will the World Cup be held on a regular basis? People wondered at Düsseldorf, but an answer is not so easily given. If, for instance, amateur athletics world championships are held, starting in 1983, the prospect of further World Cup contests will be good.

The World Cup has been a substitute for and may prove a precursor of regular world championships, in which case there might be a regular annual routine, with the Olympic Games, continental championships, world championships and the World Cup in successive seasons.

The pace of life grows more and more hectic, training schedules grow increasingly punishing and it is asking a great deal of amateur athletes to expect them to wait four years from one Olympics to the next for a chance to crown their careers with representative international honours.

Of the four competitions envisaged, the World Cup is the only one that is primarily a team event, so let us take a look at the Düsseldorf results.

In the men's events the GDR came *first with* 127 points, followed by the United States with 120, this country with 112 and the rest of Europe with 111.

America, Africa, Oceania and Asia followed at a respectful distance, so it looked as though national teams were superior to their continental counterparts. They are obviously easier to motivate.

Yet in the women's events the rest of Europe came from behind in a thrilling finish to show the GDR girls a clean pair of heels.. Which would seem to be an exception to the rule.

But the explanation is easily found. The rest of Europe joined forces with a clear objective, that of beating the odds-on favourites GDR.

There had been ample talk of the GDR beating the rest of the world and suchlike, and the rest of Europe really need to join forces to stand any chance, of beating the GDR's women athletes these days.

The rest of Europe took up the challenge, with the result that the GDR girls won only five of the fourteen events as against eight at Montreal.

The United States was most unlucky only to come second-best at Düsseldorf. With 35 seconds to go to overall victory Maxie Parks, running the last leg of the 4 x 400 metres relay, pulled a hamstring and had to retire.

The GDR won the World Cup as a result, and even this country stole a march on the opposition, winning the relay and an extra nine team points to outpoint the rest of Europe by 112 points to 111.

At all events the United States lost, whether unluckily or not, to the GDR, and this mishap is sure to trigger an impassioned debate on the other side of the Atlantic. Uncle Sam will have no intention of being trounced again by what, in comparison, is a pipsqueak GDR.

Philosophising about luck and bad luck is scant consolation for the rest of America, Africa, Oceania and Asia, however. As also-rans they could be excused for wallowing in resignation.

Yet Herb McKinley of Jamaica, a former Olympic gold medallist and Rest of America team official, surprisingly claimed that team spirit, friendship and fair play in his team were outstanding.

The World Cup, he reckoned, was wonderful. Yet the team representing the rest of America were a mixed bag, including athletes from countries as far apart politically as Canada, Cuba and Chile.

Third World athletes may have seen much of the action from behind the rest of the field, but they too had their triumphs. Perhaps the happiest victor, excepting maybe Irena Szewinska, the 31-year-old grand dame of Polish track athletics, was Miruts Yifter, the diminutive Ethiopian long-distance runner.

He won both the 5,000 and 10,000 metres finishing both events with a burst of speed that was a sight for sore eyes. There can be little doubt that he and his fellow-athletes from East Africa will sonn be setting entirely new standards in the long-distance disciplines.

The World Cup may have been primarily a team event but individual performances undeniably stood out. The US sprint relay team set up a new world record.

Miruts Yifter in the 5,000 metres, Ed Moses in the 400 metres hurdles and Irena Szewinska in the 500 metres narrowly failed to follow suit.

In the men's 800 metres the contest between Alberto Juantorena of Cuba and Mike Boit of Kenya proved a real thriller, while high-jumpers Rosemarie Ackermann and Rolf Beilschmidt and pole-vaulter Mike Tully similarly just failed to scale new world record heights.

Robert Hartmann

(Stuttgarter Nachrichten, 6 September 1977)

Sprinter Annegret Richter wants Wolfgang Thiele as her trainer

"The Amateur Athletics Association will not bow to blackmail," AAA president Professor August Kirsch announced at a World Cup reception in Düsseldorf.

This comment was in response to 1 September press reports that Olympic 100 metres gold medallist Annegret Richter may consider postponing retirement until the end of next season, which is a European championships year.

But she will only consider doing so "in certain circumstances." *And this is* what prompted an ashen-faced response from athletics officials to news that might otherwise have cheered them.

In a nutshell, the Dortmund girl is only prepared to carry on for a further season provided coach Wolfgang Thiele, who currently trains the men sprinters, is allowed to coach the women too.

Thiele, who has just qualified as an athletics instructor at the Cologne sports academy, is the man to whom Annegret Richter reckons to owe her Olympic gold medal.

She stated her terms during the finals of the European Cup in Helsinki, telling officials Ilse Bechtold and Otto Klappert. Annegret feels she must have Wolfgang Thiele as her (and her team-mates') trainer.

"If he is given the job I shall carry on running for one more season," she says, convinced that only he can motivate her for a further duel with Marlies Oelsner of the GDR, who holds the 100 metres world record of 10.88 seconds.

Annegret Richter

(Photo: Nordbild)

Annegret Richter feels humiliated that Marlies Oelsner benefited from ideal conditions to become the first woman in the world to run the 100 metres in under eleven seconds.

"Annegret," trainer Thiele noted in Düsseldorf, "is keen to prove that she is better than Marlies Oelsner."

As yet AAA officials are most reluctant to meet her terms. They feel obliged, "in the circumstances," to back the current trainer, Jochen Spilker, even though he is agreed not to have met with much success this season.

Their decision will doubtless depend to some extent on the pressure of public opinion. The officials are unlikely to announce their decision before October.

In the meantime Annegret Richter, now a mere ex-world-record holder, will keep in trim, trying not to worry that athletics officials will be making her out to be the black sheep.

Only recently she was critical of the costume designed by Heinz Oestergaard for the women's team that represented the rest of Europe so well at the World Cup in Düsseldorf.

"Annegret is not exactly making herself popular," observers commented.

Jupp Müller

(Kölner Stadt-Anzeiger, 2 September 1977)

The 10,000 metres event at Düsseldorf (Photo: Wilfried Witters)

